

Alternanthera reineckii "Lilacina"



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Family	Amaranthaceae
Part of the world	South America
Height	15-40 cm
Width	10-15 cm
Light requirements	high-very high
Temperature	17-28°C
Hardness tolerance	soft-medium
pH tolerance	5-7
Easiness	difficult

Alternanthera reineckii "Lilacina" needs plenty of light to grow and form dark-red leaves. In open aquariums it grows willingly up through the surface, and like other difficult plants growth improves considerably if CO₂ is added. Shortage of micronutrients results in pale leaves. Like other stem plants *A. reineckii* "Lilacina" is best in groups.

Alternanthera reineckii "Roseafolia"



Family	Amaranthaceae
Part of the world	South America
Height	25-50 cm
Width	10-15 cm
Light requirements	average-high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	average

Alternanthera species are usually difficult aquarium plants. However, Tropica has managed to grow *Alternanthera reineckii* "Roseafolia" from seedlings and in our experience this plant is well adapted to the environmental conditions of the aquarium. It is easily reproduced in the aquarium by cuttings which are replanted in the substrate.

The lower leaf side of *Alternanthera reineckii* "Roseafolia" is violet and this creates a beautiful contrast to the green plants in the aquarium. It requires, however, relatively high light to maintain a vigorous violet colour. In the open top aquarium *Alternanthera reineckii* "Roseafolia" likes to pierce the water level and this adds to the applicability of the plant.

Anubias barteri "coffeefolia"



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Family	Araceae
Part of the world	Cultivar
Height	15-25 cm
Width	10-+ cm
Light requirements	low-high
Temperature	20-30°C
Hardness tolerance	soft-very hard
pH tolerance	5.5-9
Easiness	very easy

Anubias barteri "coffeefolia" is a very beautiful, low variety of [Anubias barteri](#). It is characteristic that the leaves arch considerably between the leaf ribs, and the new leaves are red-brown. The colour combination and leaf shape make it an attractive variety in both large and small aquariums. It flowers frequently under water but does not produce seeds there. *Anubias* species seem to grow so slowly that they do not realise that they have been submerged. [It is not eaten by herbivorous fish.](#)

Anubias barteri var. angustifolia ("afzelii")



Family	Araceae
Part of the world	West Africa
Height	10-15+ cm
Width	15-+ cm
Light requirements	very low-high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	easy

Anubias barteri var. angustifolia is a beautiful plant with long, narrow leaves. *Anubias barteri var. angustifolia* used to be sold as *Anubias afzelii*, but the latter is actually a much larger species. It is grown under the same conditions as [Anubias barteri var. nana](#). [It is not eaten by herbivorous fish.](#)

Anubias barteri var. caladiifolia "1705"



Family	Araceae
Part of the world	Africa
Country of origin	Cultivar
Height	7-15 cm
Width	10-20 cm
Light requirements	low-average
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Anubias barteri var. *caladiifolia* "1705" is an adaptive and sturdy plants available. It accepts almost any water quality from soft to hard and from acid to weakly basic water. It is very slow growing like any other *Anubias* species and therefore the leaves are quite exposed and likely to develop a cover of epiphytic algae by age. This is less likely to happen if it is grown in soft and slightly acid water where less inorganic carbon are available for the production of epiphytes. If problems with epiphytes occur you may then try to cut off the CO₂ enrichment as the carbon requirements of *Anubias* is very low due to the slow growth, and the epiphytes are most likely to decline after a while.

Compared to [Anubias barteri](#) var. *nana* the leaves of *Anubias barteri* var. *caladiifolia* "1705" are slightly more rounded but also larger. It is also slightly sensitive to transport and environmental changes than [Anubias barteri](#) var. *nana*. None of the *Anubias* species like to have their rhizomes buried in the substrate and the growth is actually most successful if the plants are fixed to rocks, roots or other material of decoration and it provides very nice ornamental effects. See also the article [Plants cultivated on stones and tree roots!](#) and [fish-proof plants](#) from Tropica Aquarium Plants for more information.

Anubias barteri v. barteri



Family	Araceae
Part of the world	Africa
Country of origin	Camaroun
Height	20-40 cm
Width	15-30 cm
Light requirements	low-average
Temperature	20-30°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Anubias barteri is an extremely variable species and it is, at the same time, the most common of the *Anubias* genus. Several cultured hybrids exist, apart from naturally occurring varieties, and it is commonly produced from tissue cultures. *Anubias barteri* var. *barteri* anchors easily to rocks and roots in the aquarium and care must be taken if it is planted directly into the sediment: always leave the rhizome on top of the sediment because it does not tolerate burial.

It is a very sturdy plant which thrives at low light only with a slower growth rate. This variety of *Anubias barteri* is the most common after *Anubias barteri* v. *nana*. The leaves of *Anubias barteri* are subject to colonisation of algae because the leaves live very long (years). The heart shaped dark green leaves offer a pleasant contrast to most stem plants. You can greatly enhance the application of this plant - try to take a look at the article [Plants cultivated on stones and tree roots!](#) See also [fish-proof plants](#) from Tropica Aquarium Plants.

Anubias barteri v. nana



Family	Araceae
Part of the world	Africa
Country of origin	Camaroun
Height	7-15 cm
Width	8-15 cm
Light requirements	low-average
Temperature	20-30°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Tropica Aquarium Plants was the first nursery to grow *Anubias barteri v. nana* in the 1970's. It is a very sturdy swamp plant and it often set submerged flowers - it seems like the plant doesn't realize it is growing submerged. It is slow growing and should be offered low light regimes to avoid algal growth on the leaves. It accepts all kind of freshwaters - hard and soft, acid and alkaline.

Anubias barteri v. nana prefers to grow the rhizome above or on the substrate surface and it is therefore very suitable for growth directly on rocks and roots. It is easily reproduced by dividing the rhizome and Tropica produces *Anubias barteri v. nana* on lava, roots, and in pots. You can greatly enhance the application of this plant - try to take a look at the article [Plants cultivated on stones and tree roots!](#) See also [fish-proof plants](#) from Tropica Aquarium Plants.

Aponogeton bolivianus



Family	Aponogetonaceae
Part of the world	Africa
Country of origin	Madagascar
Height	30-60 cm
Width	20-30 cm
Light requirements	average-high
Temperature	16-26°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	average

Aponogeton boivinianus is one of the most precious aquarium plants available. Given the right environmental conditions this plant can grow very heavy and it is thus suitable for large tanks only. On full-grown individuals, the petiole is up to 20 cm long and the length of the blade up to 60 cm and 8 cm wide. The old leaves are dark green whereas the younger are brighter green and sometimes brownish until fully developed. *A. boivinianus* is a rather easy plant and it thrives well in a nutrient rich substrate and in water ranging from weakly alkaline to acid and from medium hard to soft. *A. boivinianus* is a stream plant and thus it likes some water movements in the aquarium. Like many of the Aponogetons, *A. boivinianus* requires a rest period once a year and we therefore recommend keeping the plant in a pot so that the plant is easily removed from the tank. Store the tuber in a cool and dry place for a couple of months before replanting it into the aquarium.

Aponogeton crispus



Family	Aponogetonaceae
Part of the world	Asia
Country of origin	Sri Lanka
Height	20-60 cm
Width	15-20 cm
Light requirements	average-high
Temperature	18-30°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	average

Aponogeton crispus is among the most valuable and beautiful aquarium plants. It has translucently bright to dark green leaves which reach a length of 30 cm. The blade is gently crispate - hence the scientific name *crispus* - and is carried on a 30-cm long petiole. *Aponogeton crispus* prefers a nutrient rich substrate with clay and it adapts quite easily to the environment in most aquaria. The inflorescence is an emergent spike with white or cream coloured flowers which can be artificially pollinated with a fine brush. Alternatively, *Aponogeton crispus* can be reproduced by dividing the tuberous rootstock.

In Nature the plant primarily grows in temporal ponds which dry out during the dry season and during this period the *Aponogeton crispus* lies dormant. However, the plant does not require such a dormancy period in the aquarium.

Aponogeton longiplumulosus



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Family	Aponogetonaceae
Part of the world	Africa
Country	Madagascar
Height	35-60 cm
Width	25-50 cm
Light requirements	medium-very high
Temperature	18-26°C
Hardness tolerance	soft-medium
pH tolerance	5.5-8
Easiness	medium

Aponogeton longiplumulosus has large, fluted leaves, making it a wonderful plant which can be recommended for large aquariums. It is relatively undemanding, and makes no special demands on water quality. It also flowers frequently, making it a beautiful addition to any large open aquarium. It stops growing at regular intervals, but normally starts again after a few weeks of dormancy.

Aponogeton madagascariensis



Family	Aponogetonaceae
Part of the world	Africa
Country of origin	Madagascar
Height	15-40 cm
Width	25-30 cm
Light requirements	low-average
Temperature	15-26°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	difficult

Aponogeton madagascariensis is without comparison among the oddest plants in our aquaria. Instead of normal mesophyll, a lattice full of holes develops and this makes the plant a rarity in every botanical garden or collection of water plants. However, *Aponogeton madagascariensis* is a very difficult plant to grow and should be kept as a proud solitary plant only in specialised aquaria. It requires a nutrient and calcarious substrate with frequent water replacement because it tends to loose the older leaves in 'old water'.

Also, *Aponogeton madagascariensis* prefers diffused indirect light as it comes from shady banks and brooks with no direct sunshine. In all circumstances this is a very diffucul plant to culture also because the many different varieties require quite different environmental conditions. Nowadays, *Aponogeton madagascariensis* is also produced from tissue cultures.

Aponogeton rigidifolius



Family	Aponogetonaceae
Part of the world	Asia
Country of origin	Sri Lanka
Height	30-60 cm
Width	25-35 cm
Light requirements	average-high
Temperature	22-28°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	average

Aponogeton rigidifolius has sturdy plant with wavy crispate and robust leaves. The plant prefers moderate to high water currents and therefore a suitable place for *Aponogeton rigidifolius* is nearby the filter. It is slow growing and it takes a couple of months before it forms a beautiful plant, but as most other *Aponogetons* it benefits from a nutrient rich substrate. CaCO_3 will precipitate on the leaves if grown in hard water *Aponogeton rigidifolius* is easily reproduced by dividing the rhizome - the plant has a rhizome in contrast to most other *Aponogetons* which have a tuberous rootstock. In addition, the plant does not require any dormancy.

Aponogeton ulvaceus



Family	Aponogetonaceae
Part of the world	Madagascar
Height	30-50 cm
Width	30-35 cm
Light requirements	avarage-high
Temperature	18-28°C
Hardness tolerance	soft-neutral
pH tolerance	acid-neutral
Easiness	avarage

Aponogeton ulvaceus is a stout plant which demands large tanks with a good amount of water surface. The leaves are translucent, bright green with a narrowed leaf base. The leaves are typical 20-50 cm long (occasionally up to 100 cm at optimum growth conditions), 3-10 cm broad and wavy on the sides. The primary form of *Aponogeton ulvaceus* is rather rare, and most available plants are hybrids. As many other *Aponogetons* this plant requires a period of rest. In winter cut off the roots and leaves and put it into unwashed sand in flowerpots in cold water for two months in a dark place. Or less circumstantial, place the tuber in a flowerpot on the windowsill together with a ordinary plant which never dries out. After this period of rest, put it back into the tank.

Azolla caroliniana



Family	Azollaceae
Part of the world	America
Height	1- cm
Width	1-+ cm
Light requirements	medium-very high
Temperature	5-26°C
Hardness tolerance	soft-hard
pH tolerance	6-8
Easiness	difficult

Azolla caroliniana is a small floating fern housing blue-green algae in its leaves. This algae is capable of absorbing nitrogen from the air, which can then be used by the plant. Water resistant. *A. caroliniana* now occurs all over the tropics, where it has become a menace because it covers lakes and deprives the original aquatic plants of light. Used as nitrogen fertiliser in rice paddies, and some varieties used as animal feed. Several related varieties on the market, with similar appearance. A decorative plant for [open aquariums](#).

Bacopa caroliniana



Family	Scrophulariaceae
Part of the world	North America
Height	15-30 cm
Width	5-10 cm
Light requirements	high-very high
Temperature	15-28°C
Hardness tolerance	soft-average
pH tolerance	acid-basic
Easiness	average

Bacopa caroliniana is a popular aquarium plant from North America where it inhabits the amphibious zone of streams and temporary ponds. Apart from the relatively high light demands this plant does not require any special considerations to thrive in the aquarium. The substrate should be sandy with some clay at the bottom of the root horizon and *Bacopa caroliniana* prefers soft water over hard water though it is not conditional for good growth. *Bacopa caroliniana* provides the best decorations if it is planted in groups rather than single shoots. If *Bacopa caroliniana* is kept in open aquaria it easily grows out of the water and form the typical terrestrial shoot with hairy stalks. *Bacopa caroliniana* can also be used in garden ponds where it often develops the small blue flowers.

Bacopa monnieri



Family	Scrophulariaceae
Part of the world	Pan tropic
Height	15-30 cm
Width	5-10 cm
Light requirements	average-high
Temperature	15-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Bacopa monnieri is a very common amphibious plant of the Pan Tropics where it occupies the banks of slow flowing rivers and lakes. The light green leaves are placed opposite on a hairy and weakly branched stem. The leaves are often narrower than the leaves of [B. caroliniana](#) and *B. monnieri* tends to have longer internodes, too. If the shoot reaches the surface, it may set small white to pink flowers during summertime. The submerged shoots of *B. monnieri* hardly ramify and thus several shoots - a minimum of ten - should be planted in a group to provide a satisfying ornament effect. *B. monnieri* is a modest and very sturdy plant. It accepts soft to hard, even brackish, water and it prefers a fine-grained nutrient rich substrate.

Barclaya longifolia



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Family	Nymphaeaceae
Part of the world	South-East Asia
Height	30-80 cm
Width	20-50 cm
Light requirements	medium-very high
Temperature	23-32°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	medium

Barclaya longifolia is a beautiful and distinctive solitary plant, available in green varieties with light-green leaves and pink underneath (or in dark-red). It flowers well in aquariums - even under water if the aquarium is so tall that the flower cannot reach the water surface. Dormant periods sometimes occur when the leaves disappear, but the plant starts forming new leaves a few months later. The dormant period can often be broken by moving the plant.

Blyxa japonica



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Family	Hydrocharitaceae
Part of the world	Asia
Height	7-15 cm
Width	5-10 cm
Light requirements	medium-very high
Temperature	22-28°C
Hardness tolerance	soft-hard
pH tolerance	5.5-7.5
Easiness	very difficult

Blyxa japonica has not been used in aquariums for long, so little experience has been gained with it so far. In general it is difficult, and probably demands both soft water and CO₂ addition to thrive. But it is highly decorative, and unlike *B. aubertii* it forms not a rosette but a beautiful stem which is densely covered with dark-green leaves. It should be planted in groups to achieve the most decorative effect.

Bolbitis heudelotii



Family	Lomariopsidaceae
Part of the world	West Africa
Height	15-40 cm
Width	15-20 cm
Light requirements	low-average
Temperature	22-28°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	average

The fern *Bolbitis heudelotii* is a fine and much appreciated aquarium plant with very beautiful transparent leaves. *Bolbitis* prefers soft water with pH below 7 and it responds to CO₂ enrichment of the water with a nice growth. In alkaline water, however, the leaves can develop black spots. It is easily reproduced by adventitious shoots and rhizome cuttings, though adventitious plants occasionally develops, too. It is easily grown on both rocks and roots much like *Microsorium*. You can greatly enhance the application of this plant - try to take a look at the article [Plants cultivated on stones and tree roots!](#)

Cabomba caroliniana



Family	Cabombaceae
Part of the world	North America
Height	30-80 cm
Width	5-8 cm
Light requirements	very high
Temperature	18-26°C
Hardness tolerance	average-hard
pH tolerance	neutral-basic
Easiness	average

Cabomba caroliniana is one of the oldest and most popular aquarium plants. The plant has the most beautiful and finely dissected submerged leaves of a very attractive light-green colour. Occasionally, floating leaves are produced, too, when the shoot reaches the water surface or in association with flowering. Apart from the very high light demands of *Cabomba caroliniana*, the plant does not require any special attention in the aquarium to thrive. If you have problems to saturate the light requirements you may try one of the similar looking [Limnophila](#) species which do not require the same amount of light to grow satisfactory. This plant must be planted in groups to attain its optimum decorative effect and it is easily reproduced by apical cuttings which are replanted in the substrate.

Cabomba furcata



Family	Cabombaceae
Part of the world	South America
Height	40-100 cm
Width	5-8 cm
Light requirements	very high
Temperature	24-30°C
Hardness tolerance	soft
pH tolerance	acid-neutral
Easiness	difficult

Until recently, *Cabomba furcata* was mistakenly sold as *Cabomba piauhyensis* but after a revision of the genus, the name has changed accordingly. *Cabomba furcata* is one of the most difficult plants available for the aquarium hobby. Nevertheless, many people are very much attracted by the red-brown appearance of the plant with the finely dissected leaves. The red to violet flower is carried on a floating leaf which primarily develops in association with flowering but occasionally floating leaves are also set when the shoot apex reaches the water surface. *Cabomba furcata* requires very soft and slightly acid water with a nutrient rich substrate, but much more important are the very high light demands. At sub-optimum growth conditions the plant soon starts to decay, to begin with at the base but later on also the shoot apex dies off. However, at good growth conditions *Cabomba furcata* grows just as fast as [Cabomba caroliniana](#) and planted in groups this plant turns out to be among the most beautiful in the aquarium.

Cardamine lyrata



Family	Brassicaceae
Part of the world	Japan China Siberia
Height	20-45 cm
Width	10-25 cm
Light requirements	high-very high
Temperature	10-25°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	average-difficult

Cardamine lyrata is a light green and often quite bushy plant, which occasionally appears in the shops. The leaves are flattened and alternate and - at least in cool water - the internodes are short. On heavily ramifying shoot the plant appears very dense and decorative. The plant is easily recognised by the roots that develop from every node. *Cardamine lyrata* is amphibious and inhabits the banks of lake and streams in the Eastern Siberia, China and Japan and it prefers cool water. It is therefore especially suitable for garden ponds but it thrives in aquaria up to about 25 °C although the internodes become longer and the blades smaller, and the plant appears less dense. The plant has no particular requirements apart from a nutrient rich substrate which should be offered to all fast growing plants. Also, the growth is faster if the water is CO₂ enriched. *Cardamine lyrata* may be reproduced from seeds as well as cuttings.

Ceratophyllum demersum



Family	Ceratophyllaceae
Part of the world	Cosmopolitan
Height	15-50 cm
Width	5-25 cm
Light requirements	average-high
Temperature	10-30°C
Hardness tolerance	average-hard
pH tolerance	neutral-basic
Easiness	easy

Ceratophyllum demersum has whirled leaves which are densely crowded at the apex of beautifully branched stems, whereas internodes may exceed 3 cm in length at the base of older stems. *Ceratophyllum demersum* is an obligate submerged perennial plant which does not form roots. In Nature it is usually found buried in sandy to silty sediments where it anchors itself by modified leaves. *Ceratophyllum demersum* often forms monospecific populations and is found down to 10 m depth as individual very slow-growing plants. In the aquarium, on the other hand, it prefers relatively high light, and it does not tolerate transportation for extended periods. It excretes substances toxic to algae (allelopathic behaviour) and at good growth conditions it efficiently inhibits most algae growth.

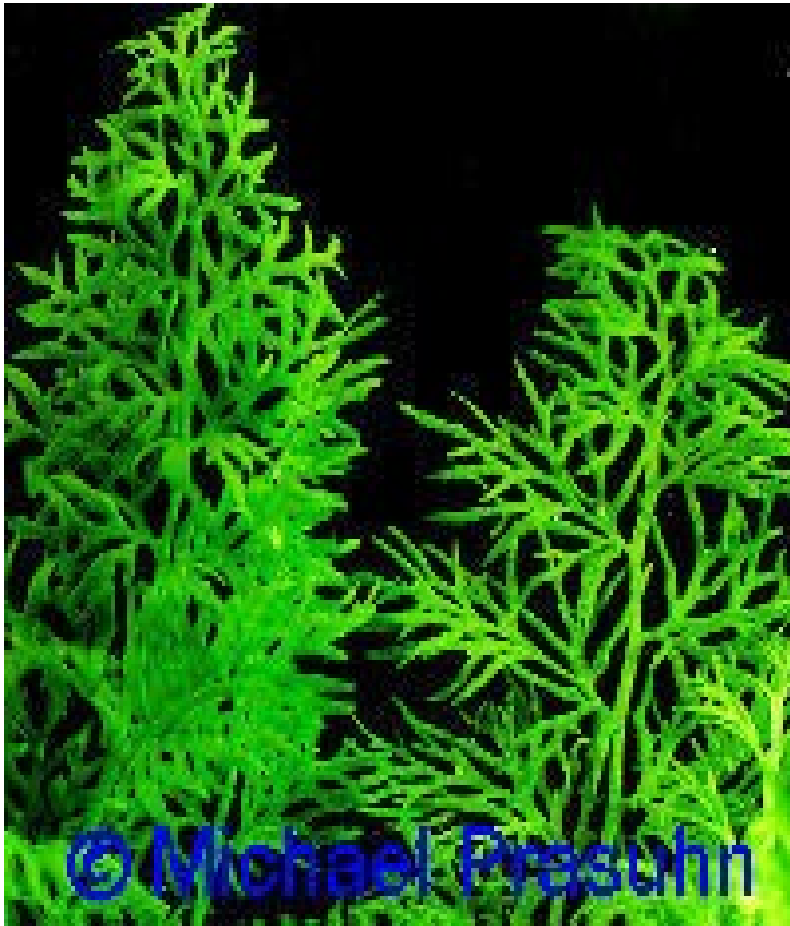
Ceratopteris cornuta



Family	Pteridaceae
Part of the world	South East Asia Africa
Height	25-50 cm
Width	10-30 cm
Light requirements	average-high
Temperature	15-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	average

Ceratopteris cornuta is an aquatic fern and resembles [*Ceratopteris thalictroides*](#) though the former has more delicate leaves. It is often sold as a floating plant where it develops a very ornamental root system that is suitable for the foam nest building labyrinth fish. However, it may just as well be grown as a rooted plant - and only the rooted individuals develop fertile leaves. The fertile leaves are folded inwards towards the abaxial - or lower - side where the sporangia develop. All leaves are, however, very different in appearance regardless of fertility status. *Ceratopteris cornuta* is a sturdy and fast growing plant which prefers a relatively nutrient rich substrate. The water chemistry does not seem to be important for this plant and most pH and hardness values found in a normal aquarium are accepted, but the growth will always benefit from CO₂ enrichment of the water. *Ceratopteris cornuta* is a very good starter plant for large aquaria because it effectively removes most of the inorganic nutrients present in the water of a new aquarium. It is easily propagated by floating leaves which produce adventitious plants.

Ceratopteris thalictroides



Family	Pteridaceae
Part of the world	Tropical
Height	15-30 cm
Width	10-20 cm
Light requirements	high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	average

Ceratopteris thalictroides is an aquatic fern. It is fast growing at high light levels and thus suitable for removing excessive inorganic nutrients from the water in the aquarium. CO₂ enrichment enhances growth significantly. *Ceratopteris thalictroides* is very plastic according to size and grows quite big in large aquaria whereas the size is more moderate in smaller ones. It is extremely easy to reproduce because it is able to set adventitious plants at the rim of the leaves. Just leave a leaf floating on the water surface and new plants will develop in due course. For some reason this plant either grows like weed or it slowly dies off.

Crinum calamistratum



Family	Amaryllidaceae
Part of the world	West Africa
Height	40-120 cm
Width	20-30 cm
Light requirements	high-very high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	medium

Crinum calamistratum is a very graceful bulbous plant with dark-green, very narrow leaves. It forms smaller bulbs than the other *Crinum* species, and demands more light. In the aquarium, plants that are thriving form a number of small bulbs. [It is not eaten by herbivorous fish.](#) It can also be used in brackish aquariums with low salt concentrations.

Crinum natans



Family	Amaryllidaceae
Part of the world	West Africa
Height	40-120 cm
Width	20-30 cm
Light requirements	low-high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Crinum natans does not have any special requirements as to water or light and it even tolerates weakly brackish water. Be sure, however, to cover only half of the bulb with a substrate poor in nutrients and decomposing organic compounds - if the bulb is covered completely it will go to rot. *Crinum natans* is only suitable for large aquaria where it proves to be a graceful solitary plant. It is a slow growing plant but once it has attained its full size the wavy leaves will float on the surface - 'natans' means floating! The plant is less light demanding and has broader leaves than *Crinum calamistratum*. Older individuals willingly set adventitious bulbs, and these new bulbs are the easiest way of propagating the plant though propagation from seeds is quite easy, too. *Crinum natans* is 'cichlid-safe' plant because the fish do not like the very sturdy fibres of the leaves. See also [fish-proof plants](#) from Tropica Aquarium Plants.

Crinum thaianum

No. 093



Family	Amaryllidaceae
Part of the world	South East Asia
Country of origin	Thailand
Height	60-150 cm
Width	20-25 cm
Light requirements	average-high
Temperature	21-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Crinum thaianum is a bulbous plant with very long strap-shaped leaves, 1 to 3 cm wide. Some individuals are able to attain a leaf length of 4 m. It is an unpretentious plant apart from the requirements to space. *Crinum thaianum* benefits from a nutrient rich substrate but the bulb is vulnerable to rot. This can be avoided by cutting off the longest roots before planting as they are most subjected to rotting. It is reproduced by adventitious bulbs on large individuals. *Crinum thaianum* is not eaten by fishes which makes it particularly suitable for cichlids aquariums. See also [fish-proof plants](#) from Tropica Aquarium Plants. Check out the article [The search for new aquarium plants](#) for a habitat picture.

Cryptocoryne albida (costata)



Family	Araceae
Part of the world	South East Asia
Country of origin	Burma South Thailand
Height	15-30 cm
Width	10-20 cm
Light requirements	average-high
Temperature	23-28°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	average

Cryptocoryne albida (costata) has lanceolate leaves placed in a dense rosette. The leaf colour is extremely variable - for example due to differences in substrate composition - but it is usually brightly green with distinctive dark bands. In nature, *Cryptocoryne albida* is often found in direct sunlight and the plant is rather light demanding. Thus, in most cases suboptimal growth of *Cryptocoryne albida* is probably due to insufficient light. The plant thrives well in soft water with a nutrient rich substrate. It is one of the slow growing Cryptocorynes though the emergent plants tend to grow a bit faster. Only the land form sets the unimpressive white flowers.

Cryptocoryne beckettii



Family	Araceae
Part of the world	Asia
Country of origin	Sri Lanka
Height	15-20 cm
Width	10-15 cm
Light requirements	low-high
Temperature	20-26°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	easy

Cryptocoryne beckettii has been one of the most popular aquaria plants for more than 60 years. *Cryptocoryne beckettii* is an amphibious plant and it grows very well submerged. *Cryptocoryne beckettii* is very adaptive to a wide range of waters though it - like most other Cryptocorynes - prefers a stable environment which small temporal variations in water chemistry. It is absolutely most beautiful in groups though very variable in colours and morphology. It is partly due to variation within the species but also the water, light and sediment influence the colour of the leaves.

Cryptocoryne beckettii (petchii)



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Family	Araceae
Part of the world	South-east Asia
Country	Sri Lanka
Height	10-15 cm
Width	8-15 cm
Light requirements	low-high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	easy

Cryptocoryne beckettii (Petchii) is a small variety of [Cryptocoryne beckettii](#), which has beautiful, slightly fluted leaf margins. Like many other Cryptocorynes, the leaf colour and shape depends largely on environmental conditions in the aquarium. See other Cryptocorynes for further information.

Cryptocoryne crispatula var. balansae



Family	Araceae
Part of the world	South East Asia
Country of origin	Thailand
Height	30-60 cm
Width	10-20 cm
Light requirements	low-high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Cryptocoryne crispatula var. balansae has crispy velvet leaves. The colour can vary from red-brown to light-green depending on the light and the substrate but the actual colour probably depends on the variety, too. The natural habitat of *Cryptocoryne crispatula var. balansae* is often calcareous though the growth is stimulated by addition of CO₂. It is a quite sturdy plant and larger individuals willingly set new offshoots. In large aquaria a group of *Cryptocoryne crispatula var. balansae* creates a beautiful background.

Cryptocoryne parva



Family	Araceae
Part of the world	South-east Asia
Country	Sri Lanka
Height	5-10 cm
Width	5-7 cm
Light requirements	medium-very high
Temperature	20-29°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	medium

Cryptocoryne parva is the smallest of all Cryptocorynes. It is one of the few species that does not significantly change its leaf shape and colour depending on cultivation conditions. It needs more light than most other Cryptocorynes because it almost loses its leaf blade under water. So it must never be overshadowed by other plants. Individual plants should be planted a few centimetres apart, and after about six months they will form a cohesive low group of plants. Recommended for foreground planting.

Cryptocoryne pontederiifolia



Family	Araceae
Part of the world	South-east Asia
Country	Sumatra
Height	10-30+ cm
Width	8-15+ cm
Light requirements	low-high
Temperature	20-29°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	easy

Cryptocoryne pontederiifolia can form slightly pink leaves under water, and in good growing conditions it grows very large. It has characteristically horizontal leaves on a long leaf stem. It rarely suffers from so-called cryptocoryne disease.

Cryptocoryne undulata



Family	Araceae
Part of the world	South-east Asia
Country	Sri Lanka
Height	10-15+ cm
Width	10-15 cm
Light requirements	low-very high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	easy

It is characteristic for this species that it has a small internodium between each leaf. Normally the leaves of *Cryptocorynes* grow out from a rosette which is so compact that the stem between the individual leaves is invisible. When you buy *Cryptocorynes* in pots, it is important that they are not planted in a lump but separated into smaller portions and preferably planted a few centimetres apart. See other *Cryptocorynes* for further information

Cryptocoryne undulata "broad leaves"



Family	Araceae
Part of the world	South-east Asia
Country	Sri Lanka
Height	15-25+ cm
Width	10-20 cm
Light requirements	low-very high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	easy

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Unlike the common [Cryptocoryne undulata](#), this plant has wider leaves and a beautiful, flecked leaf pattern. It also grows larger. It is known botanically as a triploid variety. See other *Cryptocorynes* for further information.

Cryptocoryne walkeri (lutea)



Family	Araceae
Part of the world	South-east Asia
Country	Sri Lanka
Height	12-15+ cm
Width	8-12 cm
Light requirements	low-high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	medium

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An old name for this plant is *Cryptocoryne lutea*. It has a more rigid and upright structure than many other Cryptocorynes. Like other Cryptocorynes, it must be planted at intervals of a few centimetres. After about six months it will form a cohesive group. See other Cryptocorynes for further information.

Cryptocoryne wendtii "brown"



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Family	Araceae
Part of the world	South-east Asia
Country	Sri Lanka
Height	15-25 cm
Width	10-15 cm
Light requirements	low-high
Temperature	20-30°C
Hardness tolerance	soft-very hard
pH tolerance	5.5-9
Easiness	easy

Cryptocoryne wendtii "Brown" is a beautiful brown variety of *Cryptocoryne wendtii*. It is a mistake to believe that *Cryptocorynes* require soft water. In large parts of Sri Lanka the water is hard, so Sri Lanka *Cryptocorynes* are almost all suitable for hard European water. If the plant is affected by the so called "cryptocoryne disease", do not remove it from the aquarium because a few weeks later it will produce new shoots. See other *Cryptocorynes* for further information.

Cryptocoryne wendtii "green"

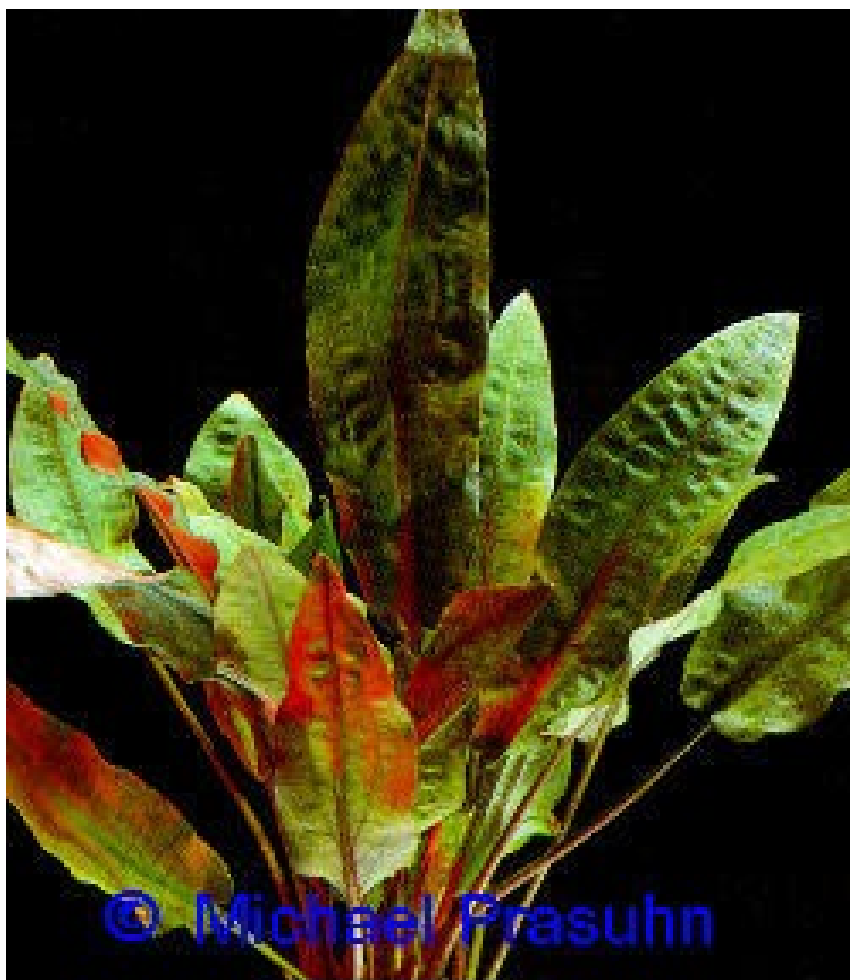


Family	Araceae
Part of the world	Asia
Country of origin	Sri Lanka
Height	5-20 cm
Width	8-15 cm
Light requirements	low-average
Temperature	20-26°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	very easy

Cryptocoryne wendtii "green" is an extremely versatile plant. The leaves vary much according to morphology and colour, and the colour ranges from light-green to red-brown depending on water and light conditions. The same individual grown under different environmental conditions changes so much that it is hardly recognized as the same species.

It is beyond any doubt the easiest plant in the aquarium, and in contrast to common belief it thrives well in calcareous water. Though *Cryptocoryne wendtii* "green" benefits from a rich substrate, excessive iron can cause crop failures and lavish CO₂ addition can also cause 'Crypt Melting'. We recommend to remove older leaves before planting as they don't contribute to the overall energy supply to the plant anymore and simply removing them ensure a better performance of the plant in the new environment.

Cryptocoryne wendtii 'Mi Oya'



Family	Araceae
Part of the world	Asia
Country of origin	Sri Lanka
Height	15-30 cm
Width	10-20 cm
Light requirements	low-average
Temperature	20-33°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Cryptocoryne wendtii 'Mi Oya' is named after the river where it was first found in 1972. It is the largest of the *Cryptocoryne wendtii* varieties and has beautiful red-brown leaves. In contrast to most other red aquarium plants this species maintains the red colour regardless of the light regime. In Nature the plant is found in calcareous water and occasionally also in brackish water which leads us to conclude that the widespread concept that Crypts prefer soft water is probably wrong or at least misleading. *Cryptocoryne wendtii* 'Mi Oya' grows well after a short period of acclimatisation and sets offshoots which eventually will create a dense cover in the aquarium. It tolerates temperatures up to 37 °C for a shorter period - the latter is observed during temperature treatment of Discus. See also [fish-proof plants](#) from Tropica Aquarium Plants.

Cryptocoryne wendtii 'Tropica'



Family	Araceae
Part of the world	South-east Asia
Country	Sri Lanka
Height	6-10 cm
Width	8-12 cm
Light requirements	low-very high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	very easy

This beautiful variety with the dark, hammered leaves is named after 'Tropica'. When grown in an open space the leaves will virtually lie on the bottom. It is suitable for small aquariums. Like most other Sri Lanka *Cryptocorynes*, it also grows well in hard water. See other *Cryptocorynes* for further information.

Cryptocoryne willisii



Family	Araceae
Part of the world	Asia
Country of origin	Sri Lanka
Height	10-15 cm
Width	10-20 cm
Light requirements	low-high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	very easy

[Click to view a 68kb photograph](#)

Cryptocoryne willisii is a perennial plant with deep green linear to egg-shaped leaves. It is amphibious and only the terrestrial plants get to flower. *Cryptocoryne willisii* is a rather small plant and spreads to thick turfy tufts in the aquarium. It proves a fine decoration together with other more high growing *Cryptocorynes* such as [Cryptocoryne beckettii](#). When growing by themselves reduce the water level and plant it in corners where detritus and other organic wastes tend to pile up - it benefits from such good nourishment. In contrast to some delicate *Cryptocoryne* species diseases are rather rare. For several years this plant has wrongly been described as *C. nevillii*. However, *C. nevillii* does exist but it is rare and not suitable for the aquarium. For more information visit [The Crypts Pages](#).

Cryptocoryne x willisii "lucens"



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Family	Araceae
Part of the world	South-east Asia
Country	Sri Lanka
Height	15-25+ cm
Width	10-15 cm
Light requirements	low-very high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	medium

Cryptocoryne x willisii "Lucens" is larger and has longer petioles than [Cryptocoryne x willisii](#). Like other *Cryptocorynes*, it should be planted in a group. But the shoots should not be planted too close to each other, because after a few months' acclimatisation they produce runners and a compact group is formed. See other *Cryptocorynes* for further information.

Cyperus helferi



Family	Cyperaceae
Part of the world	Asia
Country of origin	Thailand
Height	20-35 cm
Width	15-25 cm
Light requirements	high-average
Temperature	20-30°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Cyperus helferi is the first *Cyperus* species to prove truly ideal for the aquarium. Discovered by Holger Windeløv of Tropica Aquarium Plants, Denmark, during an expedition to the Southern part of Thailand South of Ranong, the plant inhabited a small, clear-water stream, being present both in the current itself and along the more placid margin.

It is very graceful as a solitary plant as well as in groups. CO₂ enrichment enhances the growth significantly but in hard water it is liable to develop algae on the oldest leaves. Check out the article [The search for new aquarium plants](#) for a habitat picture.

Didiplis diandra



Family	Lythraceae
Part of the world	Northeast America
Height	5-15 cm
Width	2-4 cm
Light requirements	high-very high
Temperature	20-26°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	difficult-very difficult

Didiplis diandra is a delicate and difficult but also very beautiful aquarium plant with opposite leaves in rows of two. In its' natural habitat of Northeast America it occupies the banks of rivers and lakes where it develops both submerged, floating and emergent shoots. It does not resemble any other aquarium plant, and thus it creates a very conspicuous contrast when planted in groups of 3-5 shoots in the foreground or in the middle of the aquarium. On the other hand, they should not be planted too close to each other since the lower leaves are then lost due to light deficiency. As a rule of thumb, *D. diandra* is offered enough light only when the leaf apex is coloured red. *D. diandra* prefers a fine-grained substrate and CO₂ enrichment of the soft and acid water is absolutely necessary to assure optimum growth. *D. diandra* may be reproduced by cuttings.

Echinodorus bleheri (paniculatus)



Family	Alismataceae
Part of the world	South America
Country of origin	Brasil
Height	20-40 cm
Width	25-40 cm
Light requirements	high-average
Temperature	20-26°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Echinodorus bleheri (paniculatus) is without comparison the most popular aquarium plant ever. It is a modest and fast growing plant which prefers from average to high light intensities. It favours a rich substrate, just like any fast growing aquarium plant. Echinodorus bleheri can grow to a significant size with more than fifty leaves. It is easily reproduced after flowering when small plants develop on the peduncle. The small plants are cut off - leave a piece of the peduncle on each new plant - and replanted in the substrate.

Echinodorus cordifolius "Ovalis"



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Family	Alismataceae
Part of the world	Central and South America
Height	20-35 cm
Width	20-30 cm
Light requirements	medium-very high
Temperature	18-26°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	easy

Echinodorus cordifolius "Ovalis" is a small, orbiculate "sword" plant whose low, wide growth makes it suitable for small aquariums. A nutritious bottom promotes growth, and if the leaves turn light this indicates a shortage of micro-nutrients. The plant forms stems which (unlike most other "sword" plants) bend down towards the bottom and form their own adventive plants. It is hardy and easy for both beginners and the more experienced

Echinodorus cordifolius

'Tropica Marble Queen'



Family	Alismataceae
Part of the world	Cultivar
Height	15-20 cm
Width	15-25 cm
Light requirements	average-high
Temperature	22-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	average-difficult

Echinodorus cordifolius 'Tropica Marble Queen' is a number one choice for the place of honour in the aquarium. The colour composition of the leaves is very special and goes from deep green over green to yellowish to produce a marbled leaf surface. However, the marbled look is usually lost at low light conditions and is therefore suitable for small open aquaria which in general receives enough light. Much like *Echinodorus cordifolius* the growth is fast but *Echinodorus cordifolius* 'Tropica Marble Queen' tends to stay in the aquatic environment much longer before it sets emergent leaves. The plant benefits very much from a nutrient rich substrate and from CO₂ enrichment of the water. The origin of the plant is up to now unknown but it comes from the Oriental Aquarium in Singapore where it may have arosed from a hybridisation between *Echinodorus cordifolius* var. *ovalis* and *Echinodorus cordifolius* 'Gelb'. Alternatively, we have here a natural mutation.

Echinodorus grandiflorus



Family	Alismataceae
Part of the world	South America
Height	60-150 cm
Width	30-100 cm
Light requirements	average-high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Echinodorus grandiflorus is perfectly suited for large open aquaria where it willingly grows out of the water. It tolerates the relatively dry air but if the light sources are very warm it helps the plant if we spray the leaves with water occasionally. *E. grandiflorus* readily blooms and small plants form on the flower stem. These plants can be transplanted into the aquarium when roots have formed. It prefers a nutrient rich substrate and is well suited for indoor ponds because it tolerates quite low temperatures. In South America the local people use the dried leaves for making tea.

Echinodorus grandiflorus ssp. aureus



Family	Alismataceae
Part of the world	Central and South America
Height	25-45+ cm
Width	25-40+ cm
Light requirements	high-very high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	6-8
Easiness	difficult

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Echinodorus grandiflorus ssp. aureus is characterised by the fact that new leaves are yellowish and older leaves golden. Under water it forms large, heart-shaped leaves. The plant used to be sold under the name *Echinodorus cordifolius* 'Gelb'. See [Echinodorus grandiflorus](#).

Echinodorus macrophyllus

Tropica No. 073



Family	Alismataceae
Part of the world	South America
Country of origin	Brazil
Height	30-50 cm
Width	20-30 cm
Light requirements	average-high
Temperature	20-28°C
Hardness tolerance	soft-average
pH tolerance	acid-basic
Easiness	easy

Echinodorus macrophyllus is placed in the group of sword plants with ovate leaves, and it is easily distinguished from the rest of the group on the heart-shaped leaf basis. This plant really requires a spacious tank with a nutrient rich substrate and good light conditions. *Echinodorus macrophyllus* performs best in open aquaria the where it easily grows out of the water and occasionally sets the decorative inflorescence. The leaves of *Echinodorus macrophyllus* are rather resistant to dry air and warm lamps and leaves remain nice and fresh in normal rooms of low relative humidity. The leaves can be force into submergence if the whole plant is cut down every now and then.

Echinodorus martii (maior)



Family	Alismataceae
Part of the world	South America
Country of origin	Brazil
Height	10-20 cm
Width	5-10 cm
Light requirements	average-high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	average

Echinodorus martii (maior) is a bit overlooked among plant aquarists. The plant has changed name a couple of times but the current valid name is now ***E. martii***. *Echinodorus martii (maior)* has large light-green transparent leaves with bright ribs and the leaf rim is beautifully undulating. The plant is quite sensitive to iron deficiency, like most other *Echinodorus* species, and iron deficiency causes almost white transparent leaves. A good nutrient rich substrate besides CO₂ enrichment and high light enhances the growth of *Echinodorus martii (maior)* significantly. Otherwise, the plant does not require any special attention.

Echinodorus 'Oriental'



Family	Alismataceae
Part of the world	Cultivar
Height	20-40 cm
Width	25-40 cm
Light requirements	high-average
Temperature	20-26°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Echinodorus 'Oriental' arose from a spontaneous mutation in tissue cultures of *Echinodorus X 'Rosé'* at the aquarium plants nursery ORIENTAL in Singapore. *Echinodorus 'Oriental'* segregates from other *Echinodorus* species by the youngest leaf which is light-red and almost transparent. The colour changes via deep-red with green nerves over dark-green older leaves, beautifully undulating. Grown emergent it reveals its relationship with *Echinodorus X 'Rosé'* by the characteristic black spots. The plant is slow growing and requires high light intensities and rich substrate. *Echinodorus 'Oriental'* is a peculiar novelty and it offers the opportunity to create new colours and contrasts in the aquarium. The plant is a protected variety which means it can't be grown commercially without a prior accept from Tropica Aquarium Plants.

Echinodorus osiris (rubra)



Family	Alismataceae
Part of the world	South America
Country of origin	Brazil
Height	20-50 cm
Width	20-30 cm
Light requirements	average-high
Temperature	16-26°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Echinodorus osiris (rubra) is one of the most ornamental sword plants. In the 1970s this plant was one of the most trendy - a real plant aquarists had to have a *Echinodorus osiris* in the aquarium. Although, a lot of new plants have emerged since then, it is still among the most popular aquarium plants.

The 3-4 youngest leaves are beautifully red-coloured. In addition, the young leaves are a very good indicator for especially the iron level of the aquarium. At iron deficiency, these leaves turn pale and translucent. *Echinodorus osiris* prefers a nutrient rich substrate, bright light - pH values above 7.5 restrict the growth significantly. It is a greedy plant, and the growth always benefits from fertilizer pills in the substrate. The plant is amphibious and the emergent leaves are egg-shaped compared to the more elliptic and undulating water leaves. *Echinodorus osiris* is triploide and no fertile seeds are produced. Therefore, the plant can only be propagated through adventitious plants on the inflorescence or from the rhizome. See also [fish-proof plants](#) from Tropica Aquarium Plants.

Echinodorus 'Ozelot'



Family	Alismataceae
Part of the world	Cultivar
Height	20-40 cm
Width	25-40 cm
Light requirements	high-average
Temperature	20-26°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Echinodorus 'Ozelot' is a hybrid between *Echinodorus schlueteri 'Leopard'* and *Echinodorus barthii* created by Barth in Dessau in the former East Germany. It is beautiful with elliptical black spotted red-brownish leaves and a very short petiole. The black spots has, of course, inspired the name 'Ozelot'. In contrast to many other spotted and flecked plants *Echinodorus 'Ozelot'* maintains the spots regardless of light intensity and other environmental factors. Older leaves, however, tends to have dark-red spots rather than deep black as in the younger leaves. *Echinodorus 'Ozelot'* is a sturdy plant and accepts most environmental conditions. If the conditions are sub optimal the plant just grow more slowly and a bit smaller.

Echinodorus 'Ozelot' "green"



Family	Alismataceae
Part of the world	Cultivar
Height	20-40+ cm
Width	25-30 cm
Light requirements	low-very high
Temperature	15-30°C
Hardness tolerance	soft-very hard
pH tolerance	6-9
Easiness	easy

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A beautiful, dark-green variety of [Echinodorus 'Ozelot'](#). The dark spots form a bigger contrast on the light leaves. The leaf margin is fluted. A nutritious bottom promotes growth. It is an easy and highly recommended plant, which thrives in almost all conditions.

Echinodorus palaefolius var. latifolius

Tropica No. 076



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Family	Alismataceae
Part of the world	South America
Country	Brazil
Height	20-40+ cm
Width	20-40+ cm
Light requirements	medium-very high
Temperature	20-28°C
Hardness tolerance	soft-very hard
pH tolerance	5.5-8
Easiness	medium

In marshy conditions *Echinodorus palaefolius* var. *latifolius* has round leaves with a horizontal leaf base (see ill.). Under water the leaves are narrower and longer. In the aquarium it tends to grow out of the water. This can be prevented by removing the long leaves just before they reach the water surface. The next leaves will then become shorter and the plant will remain under water. In open aquariums the plant can be allowed to grow out of the water, but the leaf margins often dry out if air humidity is low.

Echinodorus parviflorus 'Tropica'



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Family	Alismataceae
Part of the world	Cultivar
Height	5-15 cm
Width	12-20 cm
Light requirements	low-very high
Temperature	21-28°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	medium

Echinodorus parviflorus 'Tropica' is characterised by its beautiful hammered leaves with a small tip. The size depends on the light intensity, and in poor light it is quite a small plant. It looks best in small groups. *Echinodorus parviflorus* 'Tropica' was named after Tropica in 1985 by the Danish botanists Niels

Jacobsen and Lauritz Holm-Nielsen.

Echinodorus quadricostatus "magdalenensis"



Family	Alismataceae
Part of the world	South America
Country of origin	Colombia
Height	5-15 cm
Width	10-15 cm
Light requirements	high-average
Temperature	20-28°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Echinodorus quadricostatus "magdalenensis" is a beautiful light-green foreground plant which gives a nice contrast to the more dark-green plants in the aquarium. The name is derived from its natural habitats of the river Magdalena in Columbia. *Echinodorus quadricostatus* "magdalenensis" often sets offshoots for every 5 to 10cm along the bottom and the new plants soon develop into larger plants. The mother plant allocates a lot of energy to the new plants and if the connection is cut the mother plant will grow into a large vigorous plant. In case of very good condition they will even create naturally groups.

Echinodorus 'Rosé'



Family	Alismataceae
Part of the world	Cultivar
Height	25-40 cm
Width	15-25 cm
Light requirements	average
Temperature	20-28°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Echinodorus 'Rosé' is a hybrid between *E. horizontalis* and *E. horemanii* "Rot" and was first produced by H. Barth in Dessau, the former Eastern Germany. On submerged plants the old leaves are brownish-green whereas the young leaves are beautifully red coloured whereas the emergent leaves are yellow-green. It is a very sturdy plant which does not require any special conditions. It does, however, prefer a relatively fertile substrate as most other fast growing plants. Many other new hybrid aquarium plants are quite difficult to culture in the aquarium but *Echinodorus* 'Rosé' is very modest and at the same time beautiful too.

Echinodorus 'Rubin'



Family	Alismataceae
Part of the world	Cultivar
Height	20-40 cm
Width	15-30 cm
Light requirements	high-average
Temperature	18-26°C
Hardness tolerance	soft-hard
pH tolerance	neutral
Easiness	average

Echinodorus 'Rubin' is the result of an F2 hybridisation between *Echinodorus barthii* and *Echinodorus horemanii* 'Rot'. The impressive beauty of *Echinodorus X 'Rubin'* derives from its strongly red-brown leaves with their yellow-green veins. The leaves are also slightly transparent, which lends the colouration additional lustre. The plant is truly worthy of the name 'Rubin' (ruby). High light intensity enhances the red colour. Read even [more information](#) on this beautiful plant.

Echinodorus 'Rubin' "narrow leaves"



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Family	Alismataceae
Part of the world	Cultivar
Height	20-35 cm
Width	25-40 cm
Light requirements	medium-very high
Temperature	18-28°C
Hardness tolerance	soft-hard
pH tolerance	6-9
Easiness	medium

A small and narrow-leaf variety of [Echinodorus 'Rubin'](#), which is a good solitary plant for small aquariums. The transparent, ruby-red leaves with light leaf ribs provide a particularly intensive sheen. During growth the older leaves stretch outwards laterally. See [Echinodorus 'Rubin'](#) for further details.

Echinodorus schlueteri



Family	Alismataceae
Part of the world	South America
Height	15-25 cm
Width	15-20 cm
Light requirements	medium-very high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	6-8
Easiness	medium

Echinodorus schlueteri is an orbiculate “sword” plant whose low, broad growth makes it suitable for small aquariums. The youngest leaves have clear red-brown spots, which turn very light in older leaves. It is generally undemanding, but at high light intensity the red-brown spots become more strongly coloured. A nutritious bottom promotes growth. [See *Echinodorus schlueteri* ‘Leopard’](#).

Echinodorus schlueteri 'Leopard'



Family	Alismataceae
Part of the world	Cultivar
Height	10-15 cm
Width	15-20 cm
Light requirements	average-high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	average

Echinodorus schlueteri '**Leopard**' is a beautiful variety of *Echinodorus schlueteri*. It arose from an *Echinodorus schlueteri* culture at the Hans Barth nursery i Dessau, Germany. The leaves are egg-shaped with a heart-shaped basis. The blade is freckled with numerous red-brownish spots, an effect which is enhanced by high light. The spots are most conspicuous on the young leaves but they are often maintained on the older too in contrast to *Echinodorus schlueteri*. The plant prefers a nutrient rich substrate and high light and the growth also benefits from CO₂ enrichment of the water. It is reproduced by daughter plants set on the inflorescence or by dividing the rhizome. Commercially, it is reproduced in tissue cultures.

Echinodorus subalatus



Family	Alismataceae
Part of the world	Central and South America
Height	25-40+ cm
Width	20-40+ cm
Light requirements	high-very high
Temperature	20-26°C
Hardness tolerance	soft-medium
pH tolerance	5.5-8
Easiness	difficult

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Echinodorus subalatus is best in large aquariums where it can be given plenty of open space. It is a demanding plant which requires a lot of light, and thrives best on CO₂ addition and a nutritious bottom.

Echinodorus tenellus



Family	Alismataceae
Part of the world	South America Central America
Height	4-8 cm
Width	5-8 cm
Light requirements	average-high
Temperature	19-28°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	average-difficult

Echinodorus tenellus is the smallest of all sword plants. The leaves are shorter than 7 cm and about 2 mm wide, linear or sometimes lanceolate with 1-3 veins. In Nature, *E. tenellus* occupies the banks of large rivers where the emergent plants produce numerous flowers during the dry season. At favourable conditions in the aquarium, *E. tenellus* soon forms a dense carpet and it is thus very suitable as a foreground plant. In large aquaria (deeper than 40 cm) care should be taken to provide enough light because *E. tenellus* is rather light demanding. The plant prefers a fine-grained nutrient rich substrate - preferable sand mixed with 25% clay and laterite - and neutral to acid, soft water. *E. tenellus* is quite variable from individuals with lightly green and fairly short blades and to individuals with longer and darker green or even brownish blades. Also, in the shops one meets the 'false tenellus' which is simply [*Lilaeopsis brasiliensis*](#).

Echinodorus uruguayensis



Family	Alismataceae
Part of the world	South America
Height	20-55+ cm
Width	10-30 cm
Light requirements	medium-very high
Temperature	15-26°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	easy

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Echinodorus uruguayensis has long, narrow, transparent, dark-green leaves, making it a very beautiful solitary plant for large aquariums. The leaf length and width vary considerably. In good growing conditions it forms an unusual number of leaves, and a nutritious bottom and CO₂ addition and slightly acidic water promote growth. A number of species formerly regarded as distinct are now included under the name *E. uruguayensis*.

Echinodorus X barthii



Family	Alismataceae
Part of the world	Cultivar
Height	25-50 cm
Width	20-30 cm
Light requirements	medium-very high
Temperature	16-28°C
Hardness tolerance	soft-hard
pH tolerance	6-9
Easiness	medium

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Echinodorus x barthii is a decorative and beautiful solitary plant for large aquariums. The leaves change colour from dark-red in the youngest leaves to dark-green in the oldest. The colour develops well when the light intensity is high and there are sufficient micro-nutrients in the aquarium. A nutritious bottom and CO₂ addition promote growth. This plant takes a lot of light from plants underneath, so it must be pruned occasionally. It used to be sold as "Double Red".

Egeria densa



Family	Hydrocharitaceae
Part of the world	Cosmopolitan
Height	40-100 cm
Width	3-5 cm
Light requirements	medium-very high
Temperature	10-26°C
Hardness tolerance	soft-very hard
pH tolerance	5-10
Easiness	easy

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Egeria densa is a good plant for beginners, and its rapid growth helps create a balance in the aquarium from the start. It can also help prevent algae because it absorbs a great number of nutrients from the water. The plant secretes antibiotic substances which can help prevent blue-green algae (a type of bacteria). The growth rate depends largely on the amount of light and nutrition available. Growth does not stop in unfavourable conditions, but the plant turns light in colour and the tendrils grow thin.

Eichhornia azurea



Family	Pontederiaceae
Part of the world	America
Height	20-40+ cm
Width	15-20 cm
Light requirements	high-very high
Temperature	18-28°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	very difficult

Eichhornia azurea is one of the most decorative solitary plants available. Its narrow, parallel leaves are reminiscent of a palm. The plant used in aquariums is a seedling. When fully grown this is a large floating plant that is not suitable for use in aquariums. So the terminal bud must be cut off before it reaches the surface and forms floating leaves. The plant needs a lot of light. Optimum growth requires CO₂ addition, in soft, slightly acidic water and a nutritious bottom. Plants that thrive form side shoots willingly.

Eichhornia crassipes



Family	Pontederiaceae
Part of the world	Pan Tropic
Height	5-30+ cm
Width	6-25+ cm
Light requirements	high-very high
Temperature	15-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-9
Easiness	difficult

Eichhornia crassipes, “Water hyacinth”, is a distinctive floating plant that is suitable for indoor ponds and large open aquariums. It is also used as a summer plant in European garden ponds. Its size depends on the nutrients in the water and the light intensity. In open aquariums containing pure water it forms decorative miniature plants. It is now distributed all over the tropics and has become a menace, covering lake surfaces. In favourable conditions it forms an amazingly beautiful hyacinth-like flower.

Eichhornia diversifolia



Family	Pontederiaceae
Part of the world	South America
Height	25-40 cm
Width	5-10 cm
Light requirements	high
Temperature	22-28°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	difficult

Eichhornia diversifolia is a beautiful but rather difficult plant to grow in the aquarium. The leaves are thin and delicate, up to 10 cm long and form a rosette. The aquatic form are hardly distinguishable from *Eichhornia natans* but *E. diversifolia* is better suited for aquarium use. For example, the lower leaves of *Eichhornia diversifolia* live longer and are less frequently miscoloured and shed. The plant requires very high light to thrive and a nutrient rich substrate. Also, the growth of *Eichhornia diversifolia* benefits from CO₂ enrichment of the water. The flower of *Eichhornia diversifolia* is not as spectacular as the flower of *E. crassipes* - Water Hyacinth - and flowers develop only from the emergent form.

Eleocharis acicularis



Family	Cyperaceae
Part of the world	Cosmopolitan
Height	10-15 cm
Width	5--> cm
Light requirements	medium - very high
Temperature	5-25°C
Hardness tolerance	soft-medium
pH tolerance	acid-neutral
Easiness	easy-average

Eleocharis acicularis is a small grass-like plant with filamentous leaves. It creates a fine dense carpet at favourable growth conditions. *E. acicularis* is quite sturdy and hardy with a wide temperature tolerance. Thus, it is suitable as a pond plant, too, because it usually survives the winter. The plant prefers a fine-grained and nutrient-rich substrate and the growth benefits greatly from CO₂ enrichment. There are more than 100 species of *Eleocharis* sp.. They are found all over the world and many of them are very hard to distinguish from each other. Unfortunately, only a few species are suitable for aquarium purposes.

E. acicularis is very suitable as a foreground plant because the water form rarely exceeds 15 cm. It spreads by means of runners but the horizontal growth is nevertheless quite slow. Therefore, we recommend dividing the pot into 10-12 or even smaller plants before planting them spaced 2 to 5 cm apart. In any case, the *E. acicularis* looks best when planted in groups. In small aquaria, the plant looks great when planted in groups into a carpet of for example [Glossostigma elatinoides](#). The plant requires much less attention than the fast-growing foreground plants, which require repeated trimming of the runners with long internodes.

A relatively new employment of *E. acicularis* is using it as an anchor for [Riccia fluitans](#) when the latter is grown submerged after the [Armano-style](#). To begin with, the buoyant Riccia carpet is kept from floating to the surface by sprinkling with pebbles. Thereafter individual filaments of *E. acicularis* are planted in between the Riccia-carpet and *E. acicularis* will then keep Riccia in position.

Eusteralis stellata



Family	Lamiaceae
Part of the world	Asia and Australia
Height	15-25 cm
Width	10-20 cm
Light requirements	high-very high
Temperature	22-28°C
Hardness tolerance	soft
pH tolerance	acid-neutral
Easiness	difficult

Eusteralis stellata is a very beautiful aquarium plant which differs from all other aquatic plants. The 10-cm long narrow leaves are placed around the stem much like spokes in a wheel and the lower leaf side is heavily violet at optimum growth conditions. However, it is quite difficult to culture and requires very high light, soft water and CO₂ enrichment of the water to thrive. *Eusteralis stellata* is a brilliant indicator for micronutrient, especially iron. If the aquarium is short of iron, the leaves will turn light green to yellowish but a few days after iron addition the colour will reappear on new leaves. Occasionnaly, the plant suddenly stops growing but after a while adventitious shoots will normally develop and the plant resumes growth.

Glossostigma elatinoides



Family	Scrophulariaceae
Part of the world	Australia New Zealand
Height	2-3 cm
Width	>3 cm
Light requirements	high-average
Temperature	15-26°C
Hardness tolerance	soft
pH tolerance	acid-neutral
Easiness	average

Glossostigma elatinoides is a fast growing amphibious plant and the submerged culture soon builds a very nice looking carpet. However, this carpet building growth form requires quite high light intensities as *Glossostigma elatinoides* responds to low light by a much more upright stem and thereby the flat looking growth is lost. *Glossostigma elatinoides* prefers soft water with pH <7. it is one of the smallest aquarium plants and very popular in japanese aquaria built after the [Nature Aquarium concept](#).

Gymnocoronis spilanthoides



Family	Asteraceae
Part of the world	South America
Height	30-60 cm
Width	10-20 cm
Light requirements	medium-very high
Temperature	15-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	easy

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In the wild *Gymnocoronis spilanthoides* is generally found as a marsh plant, but it is very suitable for aquariums. It grows fast and makes few demands, but it does require a lot of light. With its light-green foliage, a group of *G. spilanthoides* forms a good contrast to the other aquarium plants. The high growth rate can help prevent algae because the plant absorbs a great number of nutrients from the water. Easy to propagate by side shoots or cuttings, which should be cut off and planted in the bottom.

Hemianthus micranthemoides



Family	Scrophulariaceae
Part of the world	North America
Height	10-30 cm
Width	5-10 cm
Light requirements	average-high
Temperature	18-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	average

Hemianthus micranthemoides is nice ornamental plant in small aquaria which looks much like a 'mini' *Egeria*. It is fast growing and requires therefore relatively high light and a nutrient rich substrate. It is also a valuable plant in terraria where it forms a beautiful carpet at the land water interphase. The plant is easily reproduced by cutting off the apex which is replanted in the substrate. *Hemianthus micranthemoides* is often sold for *Micranthemum umbrosum* and a widespread synonym for *Hemianthus micranthemoides* is *Micranthemum micranthemoides*.

Heteranthera zosterifolia



Family	Pontederiaceae
Part of the world	South America
Height	30-50 cm
Width	10-15 cm
Light requirements	high-very high
Temperature	18-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	easy

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Heteranthera zosterifolia is an extremely beautiful plant which forms a lot of side shoots and thus quickly forms a bushy plant group. In strong light growth is intensive, and the plant must be pruned before it becomes so compact that no light reaches the lower leaves. Water roots often form on the stem. In open aquariums it forms small blue flowers if some shoots are allowed to spread on the surface.

Hottonia palustris



Family	Primulaceae
Part of the world	Europe
Height	15-20 cm
Width	15-20 cm
Light requirements	high-very high
Temperature	15-26°C
Hardness tolerance	soft-medium
pH tolerance	5-7
Easiness	difficult

This plant needs plenty of light, and prefers slightly acidic water. *Hottonia palustris* is most beautiful when planted in a compact group. It will soon bush out, but can be pruned easily if it grows too big, after which it quickly forms new side shoots. *H. palustris* is easy to propagate using side shoots or cuttings, which should be cut off and planted in the bottom. It is also suitable for garden ponds, and is used in natural medicine.

Hydrocotyle leucocephala



Family	Apiaceae
Part of the world	South America
Height	10-20 cm
Width	5-15 cm
Light requirements	low-very high
Temperature	15-28°C
Hardness tolerance	soft-very hard
pH tolerance	5-9
Easiness	easy

A plant that grows fast and adapts easily, thriving in relatively hard water. Immediately after planting *Hydrocotyle leucocephala* will grow towards the light and the surface, where it will spread. It does not need to be rooted, but can be used as a floating plant which provides a hiding-place for young fish. Used as a herb in the tropics.

Hydrocotyle sibthorpioides (maritima)

Family	Apiaceae
Part of the world	South-East Asia
Height	3-8 cm
Width	5-+ cm
Light requirements	high-very high
Temperature	20-28°C
Hardness tolerance	soft-medium
pH tolerance	6-8
Easiness	difficult



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Hydrocotyle sibthorpioides is a beautiful plant which can unfortunately be very difficult to grow. Intensive light is vital. In the wild it is found in very arid conditions which are rarely flooded. Used to be sold as *Hydrocotyle* “Maritima”.

Hydrocotyle verticillata



Family	Apiaceae
Part of the world	America
Height	5-15 cm
Width	5 cm
Light requirements	high-very high
Temperature	5-25°C
Hardness tolerance	soft-medium
pH tolerance	acid-neutral
Easiness	average

Hydrocotyle verticillata is a true amphibious plant which thrives well above as well as under water. This makes it suitable for ponds, paludaria and also aquaria. *Hydrocotyle verticillata* can be grown as a floating plant without contact to the substrate, but grown traditionally on the bottom it creeps over the substrate and sets its characteristic almost circular leaves from the horizontal rhizome or stem. *Hydrocotyle verticillata* requires high light intensities to thrive well but it is easily reproduced by cutting short segments containing a few nodes and internodes which is then replanted in the bottom. The peculiar leaves makes it very suitable for foreground decoration purposes.

Hydrotriche hottoniiflora



Family	Scrophulariaceae
Part of the world	Madagascar
Height	20-50 cm
Width	5-20 cm
Light requirements	average-high
Temperature	19-28°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	average-difficult

Hydrotriche hottoniiflora is an odd but very beautiful looking plant from Madagascar. *H. hottoniiflora* is rare in Nature where it mostly occupies swift flowing rivers of high transparency. It has light green whirled leaves (10-20 leaves per node) on up to 70 cm long ramifying shoots. If the shoot reaches the water surface it occasionally sets a 3-mm white-pink flower, and this happens even in the aquarium. *H. hottoniiflora* prefers a fine-grained nutrient rich substrate - fx. a mixture of sand and clay - and soft acid water though it tolerates harder and more alkaline waters, too. The plant is easily reproduced from cuttings. The optimum ornamental effect is obtained only if *H. hottoniiflora* is planted in groups of 3-5 shoots in the middle of the aquarium. *H. hottoniiflora* is quite sensitive to algal growth but at high light the plant is usually able to keep track with the algae, which are then restricted to the older parts (lower) parts of the shoots.

Hygrophila corymbosa "angustifolia"



Family	Acanthaceae
Part of the world	South-East Asia
Height	25-60 cm
Width	20-35 cm
Light requirements	medium-very high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	easy

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Under water *Hygrophila corymbosa* "angustifolia" has relatively narrow leaves which are grouped close together. Plants sold in the shops are normally cultivated above water, and have rounder leaves with larger gaps between them. [See Hygrophila corymbosa "Stricta"](#).

Hygrophila corymbosa "Aroma"



Family	Acanthaceae
Part of the world	South-East Asia
Height	20-30+ cm
Width	20-40+ cm
Light requirements	high-very high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	difficult

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Under water *Hygrophila corymbosa* "Aroma" has very long, narrow and elegant leaves which are grouped close together. When cultivated above water, it has relatively short, hairy leaves. It is distinctive due to its strong aroma (hence the name). [See *Hygrophila corymbosa* "Stricta"](#).

Hygrophila corymbosa "Siamensis 53B"



Family	Acanthaceae
Part of the world	South-East Asia
Height	15-30+ cm
Width	10-15 cm
Light requirements	low-very high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	easy

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A variety of *Hygrophila corymbosa* "Siamensis", but more bushy with narrower leaves. The difference is less noticeable in older plants. [See *Hygrophila corymbosa* "Siamensis"](#).

Hygrophila corymbosa "Siamensis"



Family	Acanthaceae
Part of the world	Asia
Country of origin	Thailand
Height	15-40 cm
Width	15-20 cm
Light requirements	high-average
Temperature	20-28°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

The leaves of emergent grown *Hygrophila corymbosa* "Siamensis" are blue-green, but grown submerged they turn into beautifully light-green with very short internodes. In case of iron deficiency, however, the new leaves will be very pale. *Hygrophila corymbosa* "Siamensis" requires quite high light intensities but apart from this it does not need any special water composition.

If *Hygrophila corymbosa* "Siamensis" grows too tall the top can be cut and replanted into the substrate. The mother plant will develop new adventitious shoot and become more bushy. The plant likes to set shoots above water level and this can happen in open aquariums where the leaves again turn blue-green and beautiful flowers often develop

Hygrophila corymbosa "Stricta"



Family	Acanthaceae
Part of the world	South-East Asia
Country of origin	Thailand
Height	15-50 cm
Width	15-20 cm
Light requirements	average-high
Temperature	20-26°C
Hardness tolerance	soft-medium
pH tolerance	acid-neutral
Easiness	average

Hygrophila corymbosa "Stricta" is an unpretentious plant suitable for large aquaria. The colour of the leaves varies from light-green to red-brown at high light intensities. *Hygrophila corymbosa* "Stricta" is also suitable for open top aquaria where it likes to pierce the water surface to set beautiful blue flowers. The growth of *Hygrophila corymbosa* "Stricta" benefits from a nutrient rich substrate in combination with CO₂ addition and high light, and under such conditions the plant soon attains a beautiful stature. In a dense population the plant often loses the lower leaves because of insufficient light but *Hygrophila corymbosa* "Stricta" is, nevertheless, most decorative in groups.

Hygrophila corymbosa "Kompakt"

Tropica No. 052D



Famiglia	Acanthaceae
Provenienza	Coltivata
Altezza	10-20 cm
Larghezza	15-20 cm
Illuminazione	media-alta
Temperatura	20-28°C
Durezza	tenera-media
pH	acido-neutrale
Difficoltà	facile

[Schermo pieno \(191kb\)](#)

Hygrophila corymbosa "**Kompakt**" ha una fitta e lenta forma di crescita, un corto internodo con foglie interposte atte a formare un cespuglio. Apparentemente è una pianta che ricorda la coltura dei bonsai. L'immagine mostra una pianta di due anni presa da un acquario. Vedi anche [Hygrophila corymbosa "Stricta"](#) per maggiori informazioni sulla crescita.

Hygrophila difformis "Synnema"



Family	Acanthaceae
Part of the world	South-east Asia
Height	20-50 cm
Width	15-25 cm
Light requirements	medium-very high
Temperature	22-30°C
Hardness tolerance	soft-very hard
pH tolerance	5-9
Easiness	easy

Hygrophila difformis is beautiful and undemanding. A plant for beginners which can help create a balance in the aquarium from the start. Its rapid growth helps prevent algae because the plant absorbs a great number of nutrients from the water. The shortage of micro-nutrients leads to pale leaves, which may be an indication that the aquarium needs fertiliser. In large aquariums its lobed leaves can create a distinctive group.

Hygrophila guianensis



Family	Acanthaceae
Height	15-40+ cm
Width	15-20 cm
Light requirements	high-very high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	6-8
Easiness	medium

With its large, long leaves *Hygrophila guianensis* is most suitable for planting in groups in large aquariums. It is demanding in terms of light, and thrives best when CO₂ is added and the bottom is nutritious. If it is not pruned it easily grows above the water surface, which makes it suitable for open aquariums

Hygrophila polysperma



Family	Acanthaceae
Part of the world	South-East Asia
Height	15-50 cm
Width	10-15 cm
Light requirements	avarage-high
Temperature	18-30°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Hygrophila polysperma is a amphibious plant from the Indo-Malayan region. The aquatic form has an up to 50 cm long stem with opposed leaves very variable in shape and colour. The leaves of the emergent plants are narrower and dark green. It forms bright green tufts which grow towards the surface with good light. *Hygrophila polysperma* has no particular demands as to bottom, being very sturdy and adaptive. Sand with a little mud and clay added is sufficient for 2-3 years of good growth when left alone, and the growth always benefits from CO₂ enrichment of the water. Therefore it does not have a great tolerance for plants that have needs for alkaline water. *Hygrophila polysperma* is one of the easiest plants to propagate - all parts of the plant is able to root and form a new plant. Even a free-floating leaf will eventually form a new plant.

Hygrophila polysperma 'Rosanervig'



Family	Acanthaceae
Part of the world	South-East Asia
Height	20-30+ cm
Width	6-10 cm
Light requirements	high-very high
Temperature	18-28°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	medium

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Hygrophila polysperma 'Rosanervig' is usually an undemanding plant. But if you want deep-pink leaves you must provide intensive light. The distinctive colouring of the light leaf ribs is probably caused by a virus which prevents chlorophyll from being produced in the cells around the leaf ribs, making them white. However, this virus does not affect other plants in the aquarium.

Hygroryza aristata



Family	Poaceae
Part of the world	South-East Asia
Height	1-4 cm
Width	7-+ cm
Light requirements	high-very high
Temperature	22-28°C
Hardness tolerance	soft-hard
pH tolerance	6-8
Easiness	easy

Hygroryza aristata is the only grass species used in aquariums. It forms long, decorative roots providing good hiding-places for gouramies and other surface fish which like the roots of floating plants. It is particularly suitable for open aquariums. If growth is vigorous it must be pruned to prevent it overshadowing the other plants.

Lemna minor



Family	Lemnaceae
Part of the world	Cosmopolitan
Height	0.2- cm
Width	0.2-0.7 cm
Light requirements	low-very high
Temperature	5-30°C
Hardness tolerance	soft-very hard
pH tolerance	4.5-9
Easiness	very easy

In aquariums *Lemna minor* is often regarded as a weed that is hard to avoid. But if you patiently remove visible plants every day you will get rid of it within a few weeks. Goldfish like eating *L. minor* from the surface.

Lilaeopsis brasiliensis



Family	Apiaceae
Part of the world	South America
Height	4-7 cm
Width	>3 cm
Light requirements	high-average
Temperature	15-24°C
Hardness tolerance	soft-hard
pH tolerance	neutral
Easiness	average

Lilaeopsis brasiliensis is grass-looking small amphibious plant which is very suitable for foreground decoration. The submerged culture is easy, but it is usually quite slow growing. *Lilaeopsis brasiliensis* can grow in soft as well as in hard water and it accepts a wide light regime, though high light tends to speed up the growth. The emergent culture is especially well suited for paludarium where *Lilaeopsis brasiliensis* within a few weeks builds a thick carpet. It is able to survive down to 0 °C or even in an icecovered pond.

Lilaeopsis sp. "Mauritius"



Family	Apiaceae
Part of the world	Africa
Country of origin	Mauritius
Height	9-12 cm
Width	>3 cm
Light requirements	low-high
Temperature	18-33°C
Hardness tolerance	acid-hard
pH tolerance	neutral
Easiness	easy

Lilaeopsis sp. "Mauritius" was found by Holger Windeløv in 1992 at Mauritius east of Africa. It was growing submerged with very short leaves. The leaves grow from a horizontal rhizome and new leaves are set for every 2-5 cm. It forms a very nice 'lawn' if it is planted in a pots or otherwise restricted in horizontal growth for example by surrounding rocks. Otherwise it tends to run along the glass and it takes much longer before a homogeneous cover is obtained. *Lilaeopsis sp. "Mauritius"* requires less light than *Lilaeopsis brasiliensis*. It also grows bigger and the leaf transection is circular compared to the more flat [Lilaeopsis brasiliensis](#) leaves. It is a tolerant plant and thrives in hard as well as soft water. *Lilaeopsis sp. "Mauritius"* is also suitable as a pond plant.

Lilaeopsis novae-zealandiae

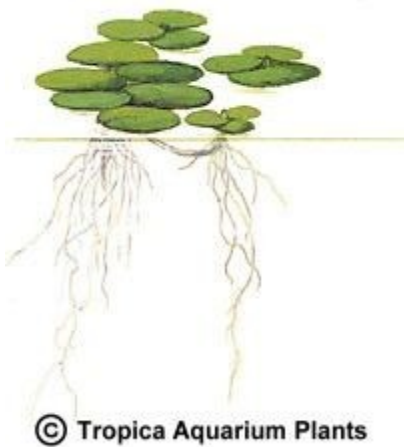


Family	Apiaceae
Country of origin	New Zealand
Height	6-12 cm
Width	5-+
Light requirements	medium-very high
Temperature	15-26°C
Hardness tolerance	soft-hard
pH tolerance	6-8
Easiness	difficult

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Lilaeopsis novae-zealandiae comes (as the name indicates) from New Zealand, and has characteristic, completely circular leaves. There is some confusion about its name, and it has been sold as [*Lilaeopsis brasiliensis*](#), which is a South American species. The plant will probably be given a third name, *L. ruthiana*.

Limnobium laevigatum



Family	Hydrocharitaceae
Part of the world	Central and South America
Height	1-5 cm
Width	5-10+ cm
Light requirements	medium-very high
Temperature	18-28°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	difficult

Limnobium laevigatum is a decorative plant that is particularly suitable for open aquariums. It is also good in traditional aquariums, because the fine, long and decorative roots provide protection to gouramies and other surface fish that like the roots of floating plants. If there are enough nutrients in the water and the light intensity is good, new leaves will appear above the water surface.

Limnophila aquatica



Family	Scrophulariaceae
Part of the world	South-East Asia
Height	25-50 cm
Width	9-15 cm
Light requirements	medium-very high
Temperature	20-30°C
Hardness tolerance	soft-medium
pH tolerance	5-8
Easiness	medium

An extremely beautiful aquarium plant circled by light-green and finely branched leaves. In the right growing conditions with added CO₂ and a nutritious bottom this plant grows fast. In good light it forms horizontal side shoots and becomes attractive and bushy. Most decorative when several stems are planted in a small group. In open aquariums it sometimes sends shoots above the water surface, forming small blue flowers.

Limnophilla aromatica



Family	Scrophulariaceae
Part of the world	South-East Asia
Height	25-50 cm
Width	5-8 cm
Light requirements	high-very high
Temperature	22-28°C
Hardness tolerance	soft-medium
pH tolerance	5-7
Easiness	difficult

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There are several varieties of this plant. The variety grown by Tropica is said to come from Malaysia. It is characterised by its narrow green leaves, which are purple underneath. Like most other red plants, the colour depends on a supply of intensive light. CO₂ addition promotes growth significantly, and it also thrives in hard water. *Limnophilla aromatica* is easy to propagate by cuttings.

Limnophila sessiliflora



Family	Scrophulariaceae
Part of the world	South-East Asia
Height	15-40 cm
Width	4-7 cm
Light requirements	average-high
Temperature	22-26°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	easy

Limnophila sessiliflora is a fast growing plant with beautiful light-green filamentous leaves which very much resembles the popular *Cabomba* species. In contrast to *Cabomba*, *Limnophila sessiliflora* does not require much light to grow and thus it can replace *Cabomba* in situations where this light demanding plant does not thrive well. *Limnophila sessiliflora* can take up a lot of inorganic nitrogen and phosphorus because it is fast growing, and the shoot apex which often needs to be cut can easily be replanted in the substrate. It develops adventitious shoots when the top is cut and becomes more bushy, though some of the new shoots tend to creep along the bottom. *Limnophila* means 'swamp friend' and in Nature *Limnophila sessiliflora* grows in shallow water of lakes and along stream and river banks.

Lobelia cardinalis



Family	Lobeliaceae
Height	20-30+ cm
Width	7-15 cm
Light requirements	medium-very high
Temperature	15-26°C
Hardness tolerance	soft-hard
pH tolerance	6-8
Easiness	difficult

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In the nursery this plant is cultivated in marshy conditions, forming dark-green leaves which are purple underneath. In aquariums the leaves turn a beautiful shade of light-green. It needs intensive light to thrive. Widely used in Dutch aquariums in so-called “plant streets”. In open aquariums it grows above the water surface, where it forms very beautiful scarlet flowers and the leaves regain their colour. Can be used in

garden ponds.

Ludwigia arcuata



Family	Onagraceae
Part of the world	North America
Height	25-40 cm
Width	3-5 cm
Light requirements	avarage-high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Ludwigia arcuata is a beautiful plant most suitable for open aquaria where it willingly grows above the water. The emergent leaves are much smaller than the larger lanceolate and opposed aquatic leaves. The stem and the leaves are in both cases reddish coloured though most intensively in the emergent form. It often flowers with small golden-yellow flowers and it is easily propagated from the seeds as well as from cuttings. *Ludwigia arcuata* shows a strong seasonal rhythm and the lower leaves are shed during the winter. Also, cuttings root very poorly during winter time. The plant prefers a rather rich substrate to grow optimally - a mixture of unwashed sand and mud/clay in the ratio of 10:1 is fine. *Ludwigia arcuata* requires high light whereas water hardness does not seem to make much difference in plant performance.

Ludwigia glandulosa ("perennis")



Family	Onagraceae
Part of the world	North America
Height	20-40 cm
Width	10-15 cm
Light requirements	low-high
Temperature	18-28°C
Hardness tolerance	average-hard
pH tolerance	neutral
Easiness	average

Ludwigia glandulosa ("perennis") is a rather new aquarium plant although it has been known and described by Linné. It develops whorls of heavy red coloured leaves which require high light intensities to remain beautiful red. It grows quite slowly compared to other *Ludwigia* species. If *Ludwigia glandulosa* ("perennis") grows too tall you just have to cut off the top which is then replanted in the substrate. The mother plant soon sets new adventitious shoots and thereby becomes more bushy.

Ludwigia helminthorrhiza



Family	Onagraceae
Part of the world	South America
Height	2-5 cm
Width	5-+ cm
Light requirements	very high
Temperature	20-30°C
Hardness tolerance	soft-average
pH tolerance	neutral
Easiness	average

Ludwigia helminthorrhiza is a very conspicuous plant. It is usually kept as a floating plant in the aquarium where it develops air-filled 'pontoon' roots which help balancing and orientating the plant at the water surface. *Ludwigia helminthorrhiza* also develops normal roots which is very ornamental and, in addition, a good playing substrate for many fishes. The plant can grow quite big and as most other floating plants it most suitable for open aquaria. *Ludwigia helminthorrhiza* requires very high light to thrive well but if this requirement is met it produces very beautiful red-coloured leaves. The leaves often turn yellowish at nutrient deficiency and it is especially sensitive to micro nutrient deficiency. It is very temperature tolerant and it is useful as a summer pond plant in the temperate gardens, too

Ludwigia inclinata



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Family	Onagraceae
Part of the world	South America
Height	20-40 cm
Width	3-5+ cm
Light requirements	high-very high
Temperature	22-30°C
Hardness tolerance	soft-medium
pH tolerance	5-7
Easiness	very difficult

Ludwigia inclinata is a difficult plant that requires soft, slightly acidic water with added CO₂ to thrive optimally. In good light the leaves turn a beautiful shade of yellow/orange. In many coloured plants the leaves are only coloured underneath, but the leaves of *L. inclinata* are also coloured on top. If there is insufficient light the leaves turn greener, and the lower leaves fall off. This plant also thrives in terrariums with a high air humidity.

Ludwigia repens



Family	Onagraceae
Part of the world	North America
Height	20-40 cm
Width	5-8 cm
Light requirements	average-high
Temperature	15-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	easy

Ludwigia repens is a beautiful and fast growing aquarium plant. The leaves are olive-green usually with a red lower side. *Ludwigia repens* thrive even in moderate light though the red colour becomes less intensive. In open aquaria the plant easily grow out of the water where yellow flowers are produced. It is an easy plant which is propagated by cuttings. Cutting the larger plant also results in a more bushy appearance. *Ludwigia repens* requires a quite nutrient rich substrate as most other fast growing plants. During the summer-time *Ludwigia repens* can be grown outdoors in shallow ponds. Often, *Ludwigia repens* is mistakenly sold for *L. natans* in the shops.

Lysimachia nummularia "Aurea"



Family	Primulaceae
Part of the world	Cultivar
Height	15-25 cm
Width	5-15 cm
Light requirements	high-very high
Temperature	15-25°C
Hardness tolerance	soft-hard
pH tolerance	6-8
Easiness	medium

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Lysimachia nummularia "Aurea" is a beautiful variety of *Lysimachia nummularia*, whose golden colour can form a good contrast to the other plants in an aquarium. It requires good light but makes no other demands. It is most decorative when planted in small groups.

Micranthemum umbrosum



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Family	Scrophulariaceae
Part of the world	Central America
Country	USA
Height	10-15+ cm
Width	1-1.5 cm
Light requirements	high-very high
Temperature	20-26°C
Hardness tolerance	soft-hard
pH tolerance	5.5-8
Easiness	medium

Micranthemum umbrosum is a beautiful plant with small round leaves. It is suitable for small or large aquariums. Relatively demanding in terms of light. CO₂ addition is recommended to promote growth. Once the plant starts growing it grows fast, and the shoots have to be pinched out often (can be planted as cuttings in the bottom). Most beautiful in groups of many stems.

Microsorium pteropus



Family	Polypodiaceae
Part of the world	South-East Asia
Height	20-35 cm
Width	12-18 cm
Light requirements	low-high
Temperature	22-30°C
Hardness tolerance	average-hard
pH tolerance	neutral
Easiness	easy

Microsorium pteropus is a water fern and is found attached to roots and rocks in Nature. The olive green leaves grow from a horizontal rhizome. To begin with the new plant should be attached to the substrate with a thin wire or a rubberband until new anchor roots have been formed.

Microsorium pteropus does not require any special attention and survives and even grows at very low light intensities although at a lower growth rate. It accepts very soft water and up to even brackish water.

Microsorium pteropus is easily reproduced from small adventitious plants which is formed on the older leaves. This process is induced if the leaf floats at the surface and the new plants grow bigger.

The black spots forming on the abaxial leaf side is not due to pathogens as often interpreted but rather sporangia needed in the sexual reproduction of the plant. You can greatly enhance the application of this plant - try to take a look at the article [Plants cultivated on stones and tree roots!](#) Also, the article [Microsorium pteropus 'Windeløv' and Microsorium pteropus 'Tropica'](#) provides more thorough information. See also [fish-proof plants](#) from Tropica Aquarium Plants.

Microsorium pteropus 'Tropica'



Family	Polypodiaceae
Part of the world	Cutivar
Height	10-50 cm
Width	15-25 cm
Light requirements	low-high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	very easy

Microsorium pteropus 'Tropica' is a very ornamental plant named after Tropica Aquarium Plants, Denmark. The leaf margin is initially dentate in shape. Later, the tooth-like projections become longer, and on old leaves they may form relatively long, thin lobes. On older plants, the leaves may grow up to 30-40 cm length. As with the ordinary [Microsorium pteropus](#), adventitious plants form on the old leaves. This initially occurs at the leaf margins but may also take place on the leaf surface itself. These adventitious plants do not acquire the characteristic leaf lobes of *Microsorium pteropus* 'Tropica'. There, this plant can only be propagated by dividing the creeping rhizome. Formation of sporangia has not yet been observed on this fern. *Microsorium pteropus* 'Tropica' is well suited for both background and solitary purposes in large aquaria. See also [Microsorium pteropus 'Windeløv'](#) - another *Microsorium* cultivar from Tropica. Also, the article [Microsorium pteropus 'Windeløv' and Microsorium pteropus 'Tropica'](#) provides more thorough information.

Microsorium pteropus 'Windeløv'



Family	Polypodiaceae
Part of the world	Cultivar
Height	10-20 cm
Width	12-18 cm
Light requirements	low-high
Temperature	20-30°C
Hardness tolerance	average-hard
pH tolerance	neutral
Easiness	easy

Microsorium pteropus 'Windeløv' is indeed among our most popular and prestigious plants. It is an easy plant and grows well under almost any conditions. Though the plant bears a variety name it was found in a natural *Microsorium pteropus* population on Java. The plant is a protected variety which means it can't be grown commercially without a prior accept from Tropica Aquarium Plants. *Microsorium* 'Windeløv' is one of the most beautiful aquatic ferns and we grow it on lava and roots as well as in pots. On lava and roots you will find it one of the most decorative solitary plants in the aquarium. You can greatly enhance the application of this plant - try to take a look at the article [Plants cultivated on stones and tree roots!](#) Also, the article [Microsorium pteropus 'Windeløv' and Microsorium pteropus 'Tropica'](#) provides more thorough information.

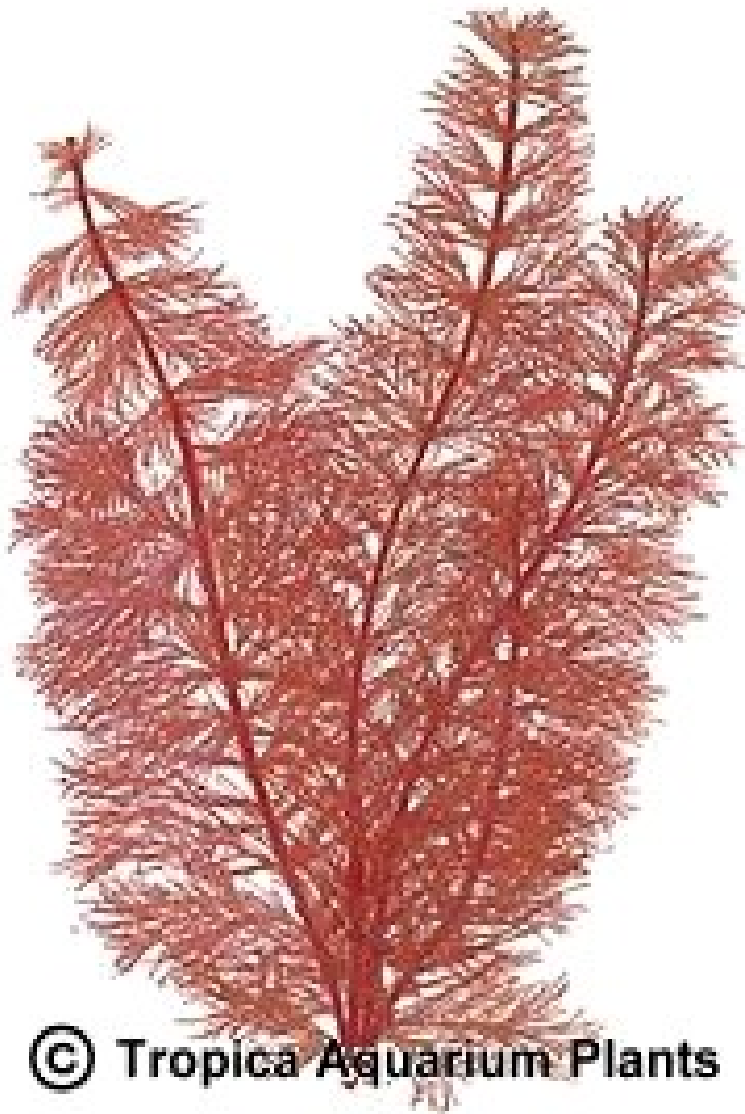
Myriophyllum aquaticum (green)



Family	Haloragaceae
Part of the world	South America
Height	40-+ cm
Width	5-8 cm
Light requirements	high-very high
Temperature	10-29°C
Hardness tolerance	soft-very hard
pH tolerance	5.5-9
Easiness	difficult

The fine foliage of *Myriophyllum aquaticum* makes it a beautiful aquarium plant. It only thrives in good light. A nutritious bottom and CO₂ addition promote growth significantly. *M. aquaticum* grows well in hard water, but this is not necessary for optimum growth. It is most beautiful when planted in groups, but do not plant shoots too close because this will prevent light reaching the lower leaves.

Myriophyllum tuberculatum (red)



Family	Haloragaceae
Part of the world	South East Asia
Height	40-+ cm
Width	5-8 cm
Light requirements	very high-very high
Temperature	18-29°C
Hardness tolerance	soft-hard
pH tolerance	5-7
Easiness	very difficult

The finely-branched red leaves of *Myriophyllum tuberculatum* make this one of the most beautiful of aquarium plants. But it makes great demands on the light, and only thrives in a few aquariums. A nutritious bottom and CO₂ addition promote growth significantly. *M. tuberculatum* is most beautiful when planted in groups, but do not plant shoots too close because this will prevent light reaching the lower leaves.

Nesaea crassicaulis



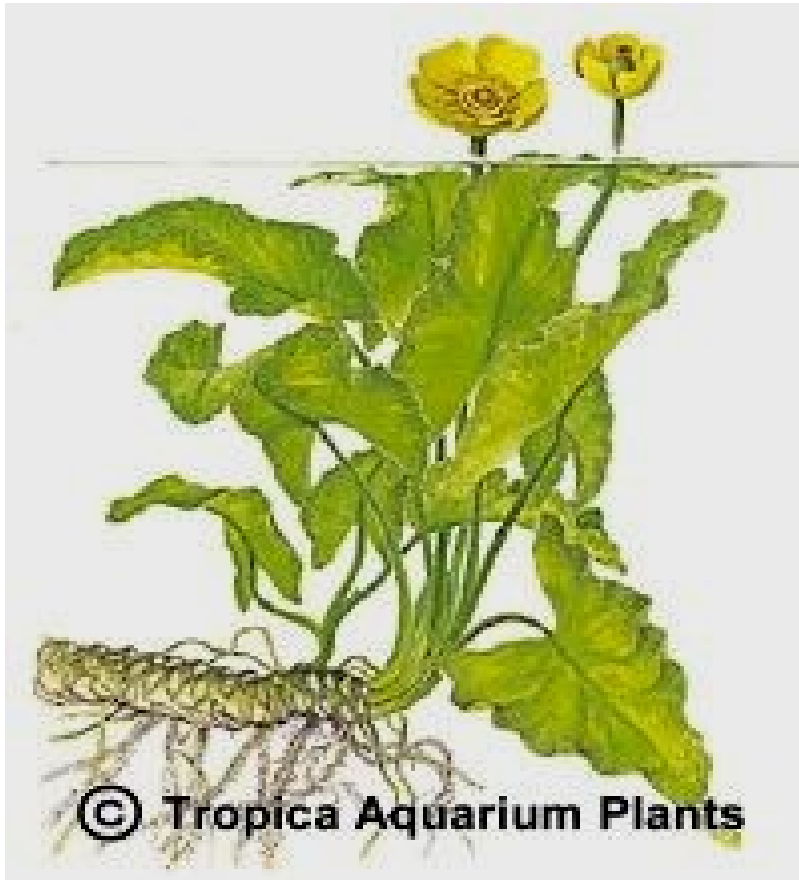
Family	Lythraceae
Part of the world	Africa
Height	30-50 cm
Width	8-+ cm
Light requirements	high-very high
Temperature	22-28°C
Hardness tolerance	soft-medium
pH tolerance	5.5-8.5
Easiness	difficult

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Nesaea crassicaulis is a beautiful and highly recommended aquarium plant, although it makes relatively high demands on the light. It has red-brown, cognac-coloured leaves. Grows best in soft and slightly acidic water. Make sure the lower leaves get sufficient light, otherwise they turn black and fall off. This plant is similar to *Amania* species and is often mistaken for them. But in the aquarium it can be

recognised by its yellow-green stems. Easy to propagate by side shoots or cuttings, which can be cut off and planted in the bottom.

Nuphar japonica



Family	Nymphaeaceae
Part of the world	Asia
Country	Japan
Height	25-80 cm
Width	20-50 cm
Light requirements	medium-very high
Temperature	10-28°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	difficult

A distinctive plant – light-green leaves with transparent sections in the leaf margins. Most water lilies form floating leaves quickly, but *Nuphar japonica* can continue to form beautiful underwater leaves for many years. The leaves rarely acquire an algae coating, probably because they contain substances which prevent this. A nutritious bottom encourages growth. Often mistakenly called “Spatterdock”. A beautiful and distinctive solitary plant for large aquariums.

Nymphaea lotus ("zenkeri")



Family	Nymphaeaceae
Part of the world	West Africa
Height	10-60 cm
Width	10-60 cm
Light requirements	average-high
Temperature	22-30°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Nymphaea lotus ("zenkeri") - or the Tiger Lotus - is recognised to be among the most graceful aquarium plants. It is a quite variable species and the leaf colour may vary from bright green over red-brown to red-violet. It is without comparison the most suitable *Nymphaea* species for aquarium purposes because it sets numerous water leaves before floating leaves are produced. When floating leaves are produced the plant easily sets flowers, too. A nice odour escapes from the flower which, however, only opens during night-time. If, on the other hand, floating leaves are unwanted due to the strong light competition, newly formed floating leaves and longer roots may be removed. The plant thereafter begins to produce water leaves. *Nymphaea lotus* ("zenkeri") is an unpretentious plant though a nutrient rich substrate is required to sustain

optimal growth.

Nymphaea pubescens



Family	Nymphaeaceae
Part of the world	South East Asia
Height	20-60 cm
Width	20-30 cm
Light requirements	medium-very high
Temperature	22-30°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	medium

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If you don't want this plant to form floating leaves, try pruning the roots and removing the floating leaves. This keeps the plant young. A nutritious bottom encourages growth, as in all water lilies. A solitary plant for large aquariums.

Pellia endiviaefolia

No. 002C



Family	
Continent	Asia
Region	
Country of origin	
Height	0-1+ cm
Width	0-3+ cm
Light requirements	very low-very high
Temperature	15-30 °C
Hardness tolerance	very soft-very hard
pH tolerance	5,5-8,5
Growth	fast
Demands	very easy

Phyllanthus fluitans



Family	Euphorbiaceae
Part of the world	South America
Height	1-3 cm
Width	1--> cm
Light requirements	high
Temperature	25-30°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	average-difficult

Phyllanthus fluitans is one of very few aquatic representatives of the large family of *Euphorbiaceae* many of which inhabit much different habitats, for example the succulent dessert plants. *Phyllanthus fluitans* is a little floating plant with very short internodes but a well-developed root system. The flowers - small, white and unimpressive - are set late summer or early fall and after flowering the plant usually degrades due to insufficient light intensities during wintertime. Apart from high light the plant does not have any other special demands though it prefers quite nutrient rich, soft and slightly acid water. *Phyllanthus fluitans* develops reddish leaves at very high lights intensities The plant is rarely found in the aquarium shops but *Phyllanthus fluitans* is now routinely produced by Tropica.

Pistia stratiotes



Family	Araceae
Part of the world	Pan Tropic
Height	5-20+ cm
Width	5-20+ cm
Light requirements	high-very high
Temperature	17-30°C
Hardness tolerance	soft-very hard
pH tolerance	5-8
Easiness	medium

Pistia stratiotes is a beautiful floating plant for open aquariums and indoor ponds. It is easy to propagate by using runners. In Europe it can also be used as a summer plant in garden ponds, but in the tropics it is regarded as a serious weed. It is also good in traditional aquariums, where the fine, long, decorative roots provide hiding-places for gouramies and other surface fish. If growth is good it must be pruned to prevent it overshadowing the other plants.

Polygonum sp.



Family	Polygonaceae
Part of the world	South-east Asia
Height	20-60 cm
Width	7-10 cm
Light requirements	medium-very high
Temperature	20-28°C
Hardness tolerance	soft-hard
pH tolerance	5.5-7.5
Easiness	medium

Unfortunately, the country of origin and species of this plant are unknown (it may come from Thailand). It develops beautiful bronze-coloured leaves in optimum light conditions, and is characterised by the big distance between the leaves, which grow to alternate sides. The *Polygonum* family is widely known as a family of marsh plants all over the world, but this species is one of the few true underwater plants, even though it sometimes grows above the water surface in open aquariums. It is most decorative when planted in small groups.

Ranunculus limosella



Family	Ranunculaceae
Country of origin	New Zealand
Height	5-8 cm
Width	3--> cm
Light requirements	high-very high
Temperature	10-28°C
Hardness tolerance	soft-average
pH tolerance	acid-basic
Easiness	average-difficult

Ranunculus limosella is a small and beautiful plant well suited for foreground decoration or for tanks designed after the [Nature Aquarium](#) concept. It is an amphibious plant which growth equally well above or below water though the growth is probably enhanced by CO₂ enrichment when grown submerged. In the land form *R. limosella* flowers with a 5 mm unpretentious yellow-purple flower. *R. limosella* is easily confused with various species in the genus of [Lilaeopsis](#) though *R. limosella* has a distinct petiole and blade compared to the more undifferentiated leaf of *Lilaeopsis*. See also, the article [Ranunculus limosella - a new aquarium plant from New Zealand](#) which provides more thorough information.

Tip! The pot contains contains 100 plants or more. Therefore, split up the lump into 8 or more pieces and plant with a distance of about 5 cm in a mesh structure to obtain a faster plant cover. See also [A great start](#)

[of a beautiful aquarium.](#)

Riccia fluitans



Family	Ricciaceae
Part of the world	Cosmopolitan
Height	1-5 cm
Width	1--> cm
Light requirements	high
Temperature	10-30°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	average-difficult

Riccia fluitans is an aquatic liverwort. Its body is formed by the thallus which is fork-shaped. Its colour is emerald to deep green - the lighter forms usually grow in bright light. *Riccia fluitans* often forms thick mats on the surface of the water, but in the mud it takes a terrestrial form with short rhizoids and anchors itself to the bottom. *Riccia* was formerly used in breeding tanks for fish fry or to spawn labyrinth fishes, which build the bubbles of their foamy nests under the tufts.

Recently, *Riccia fluitans* has become more popular than ever due the widespread use in the [Nature Aquarium](#) together with [Glossostigma elatinoides](#). Here *Riccia fluitans* is fixed with a nylon mesh to rock or roots where it after less than two weeks forms the most beautiful homogeneously green cover. When the plant is kept totally submerged it is probably necessary to add CO₂ to the water and high light is needed to sustain a good growth. After a while it is necessary to neat the tufts because the thallus soon grows upwards toward the water surface. This is easily done by trimming with a pair of scissors or by wrapping the nylon mesh around the stone or root once more.

Rotala macrandra



Family	Lythraceae
Part of the world	South East Asia
Country	India
Height	25-55 cm
Width	2-7 cm
Light requirements	very high
Temperature	22-28°C
Hardness tolerance	soft-medium
pH tolerance	5-7
Easiness	very difficult

Rotala macrandra is an unusually beautiful aquarium plant, but unfortunately it makes such big demands that it only thrives in a few aquariums. It needs very good light to develop its beautiful red colour, and

CO₂ addition and soft water are vital to ensure reasonable growth. It is most beautiful in groups, but do not plant individual shoots too close because this will prevent light reaching the lower leaves. To ensure good colour there must be sufficient micro-nutrients in the water.

Rotala rotundifolia (indica)



Family	Lythraceae
Part of the world	South-east Asia
Height	40-60 cm
Width	3-+ cm
Light requirements	medium-very high
Temperature	18-30°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	easy

The Latin name means “the plant with the round leaves”. But this only applies to the marsh variety, which has circular leaves. In aquariums *Rotala rotundifolia* has long, thin leaves. Unlike other *Rotala* species it is relatively undemanding, although it needs good light to produce red leaves. It forms side shoots willingly, becoming compact and bushy. This also means that it is hard for light to reach the lower leaves, so the plant should be pruned frequently. Also known as *Rotala indica*.

Rotala sp. 'Green'



Family	Lythraceae
Part of the world	Unknown
Height	40-50 cm
Width	3-+ cm
Light requirements	high-very high
Temperature	18-30°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	easy

Growth and appearance similar to [Rotala rotundifolia](#), but leaves are lighter green even when light is relatively good.

Rotala sp. "Nanjenshan"



Family	Lythraceae
Part of the world	South East Asia
Height	10-15 cm
Width	2-4+ cm
Light requirements	high-very high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	medium

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There is some uncertainty about the correct name of this plant. For some time it has been sold as *Mayaca sellowiana*, but actually this is *Rotala sp.* "Nanjenshan" (species unknown). It is a graceful plant with

needle-shaped leaves. It requires a relatively large amount of light, and CO₂ addition is recommended to promote growth. The most decorative effect is achieved by planting it in groups. Also suitable for small aquariums.

Rotala wallichii

Tropica No. 032A



Family	Lythraceae
Part of the world	South-east Asia
Height	10-30 cm
Width	2-4+ cm
Light requirements	medium-very high
Temperature	18-28°C
Hardness tolerance	soft-medium
pH tolerance	5-7
Easiness	difficult

Rotala wallichii is a demanding plant that develops red shoot tips in good light conditions. The most decorative effect can be achieved by planting a large number of stems in a group. *R. wallichii* is a good foreground plant, and suitable for small aquariums because it is easy to prune if it grows too large. CO₂

addition boosts growth considerably. It also prefers soft, slightly acidic water

Sagittaria platyphylla



Family	Alismataceae
Part of the world	North America
Height	15-25 cm
Width	10-15 cm
Light requirements	average-high
Temperature	15-26°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	very easy

Sagittaria platyphylla is slow growing but modest swamp plant. The submerged form which is used in the aquaria has up to 20 cm long strap-shaped leaves which are set in a rosette. In contrast to what is suggested by the slow growth rate, *Sagittaria platyphylla* usually benefits from a nutrient rich substrate in addition to high light. The plants prefer calcareously but acid to neutral water and form beautiful groups in the foreground. The emergent form can be grown in terraria where the leaves will become darker and much larger - up to 40 cm - and dependent on the length of day oval leaves occasionally develop. It is very suitable as the beginners plant.

Sagittaria subulata



Family	Alismataceae
Part of the world	America
Height	10-30 cm
Width	10-15 cm
Light requirements	high-low
Temperature	12-26°C
Hardness tolerance	soft-average
pH tolerance	acid-neutral
Easiness	easy

Sagittaria subulata is common and widespread in South and North America. It is a modest plant and therefore a good starter plant, though it prefers a relatively fine substrate. The narrow leaves it placed in a rosette and tubers are sometime set on the offshoots. Placed in the foreground it soon develops a dense cover from offshoots. For years *Sagittaria subulata* maintains its low growth form but dependent on for example age, light intensity and population density it suddenly stretches up to a height of 50 cm and sets flowers. Such plants are often mistaken for *Vallisneria*. Replanted in the background of the aquarium *Sagittaria subulata* often turns back into the low growth form.

Salvinia cucullata



Family	Salviniaceae
Part of the world	South East Asia
Height	1-2 cm
Width	3-+ cm
Light requirements	medium-very high
Temperature	20-30°C
Hardness tolerance	soft-hard
pH tolerance	5-8
Easiness	easy

In aquariums the plant often develops small leaves lying flat on the water surface. But in good light distinctive cone-shaped leaves grow. [See also *Salvinia natans*](#).

Salvinia natans



Family	Salviniaceae
Part of the world	Asia
Height	1-3 cm
Width	3-+ cm
Light requirements	high-very high
Temperature	12-30°C
Hardness tolerance	soft-hard
pH tolerance	5.5-9
Easiness	medium

Salvinia natans is a floating fern that grows quickly if there is sufficient nutrition and light. Light leaves are a sign of a shortage of micro-nutrients. Thin the plant to stop it taking light from the plants at the bottom. *Salvinia* varieties have small hairs on their leaves, making them water resistant. Helps prevent algae by shading parts of the aquarium and using nutrients in the water. Grows very big in the wild and in optimum conditions. A decorative plant for open aquariums.

Samolus valerandi



Family	Primulaceae
Part of the world	America
Height	6-9 cm
Width	6-9 cm
Light requirements	average-high
Temperature	16-24°C
Hardness tolerance	average-hard
pH tolerance	neutral-basic
Easiness	very easy

Samolus valerandi is an amphibious plant with leaf rosettes consisting of 7-14 leaves. The leaves are light green, oval and broadened, 10 cm long and 3-4 cm wide with a narrow base. *Samolus valerandi* is very ornamental as a foreground plant, in shallow aquaria, or alternatively, as a swamp plant in terraria. *Samolus valerandi* benefits from a nutrient rich substrate - though it is not conditional for good growth - but it requires high light to thrive well. *Samolus valerandi* is an easy beginner's plant though one has to be patient with the emergent form - the one sold in the stores - because it may take a while for the plant to adapt to the aquatic environment.

Saururus cernuus



Family	Saururaceae
Part of the world	America
Height	5-30 cm
Width	5-15 cm
Light requirements	high-very high
Temperature	15-26°C
Hardness tolerance	soft-hard
pH tolerance	6-9
Easiness	difficult

A marsh plant rarely found under water in the wild. It grows well in aquariums in good light, but often grows leggy in poor light. *Saururus cernuus* is suitable for open aquariums, where it can grow above the water surface. It flowers easily, and the leaves emit a sweet aroma. In “Dutch aquariums” it is used in so-called “plant streets”. Its height can be adjusted constantly by cutting off the top and planting shoots in the bottom.

Shinnersia rivularis



Family	Asteraceae
Part of the world	North America
Country of origin	Mexico
Height	20-60 cm
Width	10-15 cm
Light requirements	average-high
Temperature	18-30°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	easy

Shinnersia rivularis or 'Mexican Oak Leaf' is a beautiful and very fast growing swamp plant. However, it thrive well under water too, and it is therefore well suited for aquaria as well as paludaria. The leaves are brightly green and very variable though often lanceolate in appearance. It requires high light to produce maximum growth rates but more moderate light is sufficient in most cases. The substrate does not seem to be very important and even free floating shoots continues to grow and soon adventitious shoot are formed, too. When grown as a swamp plant *Shinnersia rivularis* can grow up to 1 m tall. In addition, the plant can be used in garden ponds during summertime.

Vallisneria americana "gigantea"



Family	Hydrocharitaceae
Part of the world	North America Asia Oceania
Height	50-200 cm
Width	15-25 cm
Light requirements	average-high
Temperature	18-28°C
Hardness tolerance	hard
pH tolerance	neutral-basic
Easiness	easy

***Vallisneria americana* "gigantea"** - the current and therefore correct name is *Vallisneria americana* var. *americana* Michaux - is a vigorous but also space-requiring plant. Several varieties are sold in the shops but most of them are cultural forms with more or less variation in leaf morphology. Most forms can produce leaves of up to two metres in length and even in rather deep tanks these will reach the surface where they are effective competitors for light. The leaves may be cut down but this, of course, reduces the plant growth and also it does not look very nice, and it consequently performs best in large show aquaria. *Vallisneria americana* "gigantea" shows optimum growth in hard waters with moderate to intense flow.

The root system of *Vallisneria americana* "gigantea" can reach very high densities and a substrate of at least 10 cm is therefore recommended.

Vallisneria americana "natans"



Family	Hydrocharitaceae
Part of the world	Asia
Height	50-100 cm
Width	10-15 cm
Light requirements	low-high
Temperature	18-28°C
Hardness tolerance	average-hard
pH tolerance	acid-neutral
Easiness	easy

Vallisneria americana "natans" is a very easy aquarium plant. It prefers hard, alkaline water and a fine nutrient rich substrate. *Vallisneria americana* "natans" is fast growing and propagates from the rhizome. As for many other aquarium plants, the maximum size depends much on the size of the aquarium.

Therefore, this relatively large plant can also be used in the background of small aquaria where it seldom reaches a length of more than 40 cm.

Vallisneria americana var. biwaensis



Family	Hydrocharitaceae
Part of the world	South-East Asia
Height	20-80 cm
Width	5-15 cm
Light requirements	medium-very high
Temperature	20-28°C
Hardness tolerance	soft-very hard
pH tolerance	6-8.5
Easiness	medium

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Vallisneria americana var. biwaensis is a graceful variety of *V. americana*. It has beautiful twisted leaves,

but it needs more light than the other *Valisneria* species. Other twisted *Valisneria* are cultivated, so not all twisted *Vallisneria* are *V. americana* var. *biwaensis*.

***Vallisneria spiralis* "Tiger"**



Family	Hydrocharitaceae
Part of the world	South-East Asia
Height	30-55 cm
Width	15-30 cm
Light requirements	low-high
Temperature	15-30°C
Hardness tolerance	soft-hard
pH tolerance	acid-neutral
Easiness	easy

Vallisneria spiralis "Tiger" is a beautiful plant with conspicuous transverse darker bands on the leaves. It is selected from many others because of its beauty, sturdiness and fast growing characters. *Vallisneria spiralis* "Tiger" accepts all kind of waters and it does not require much light to maintain high growth rates.

Vesicularia dubyana



Family	Hypnaceae
Part of the world	South-East Asia
Height	5- -> cm
Width	5- -> cm
Light requirements	low-high
Temperature	15-28°C
Hardness tolerance	soft-hard
pH tolerance	acid-basic
Easiness	easy

Vesicularia dubyana - the Java Moss - inhabits the amphibious zone of forest streams in South East Asia. It grows well both below and above the water as long as the air is humid. *V. dubyana* attaches to rocks and roots also in natural habitats and it is especially suitable for the [Nature Aquarium](#) concept where it relatively easily builds beautiful turfs on roots. The Java Moss is sometimes a slow starter but when it has established it does not require any special attention. It accepts all kinds of waters - even weakly brackish - and all kinds of light qualities at a wide range of temperature. *V. dubyana* can, however, be tricky when problems with filamentous algae occur because they infiltrate the moss and are almost impossible to remove mechanically. Also, detritus may build up in the moss turf which looks quite unpleasant but a pipette with a moderate flow will soon clean up the mess.